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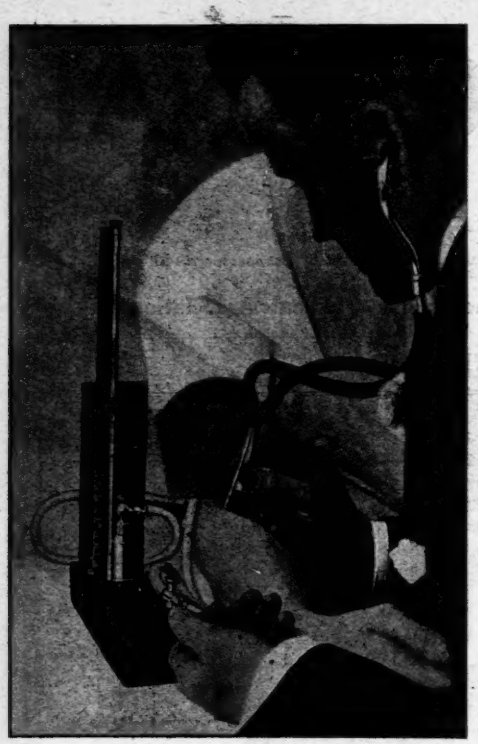

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VOL. I.—4TH YEAR. SYDNEY: SATURDAY, JUNE 9, 1917. No. 23.

EXPERIENCES IN A BRITISH MILITARY HOSPITAL.[1]

By J. B. Dawson, M.D. (Lond.), F.R.C.S. (Eng.),
Glenelg, South Australia.

On May 7, 1915, I received a commission as Lieutenant in the Royal Army Medical Corps, and was ordered to join at Aldershot the 12th Casualty Clearing Station. This unit was the first of the new medical units raised under Lord Kitchener's scheme. We were, in point of fact, the first of the new army to go to France, nominally attached to the 9th Division, a Highland division made famous by Ian Hay as the "First Hundred Thousand."

The officers consisted of a regular Lieutenant-Colonel, who had already had six months' active service in France in command of a cavalry field ambulance; a regular Captain, who also had served abroad as Medical Officer of a regiment, two Lieutenants of the Special Reserve of Officers, and three temporarily commissioned civilian doctors.

The presence of the two regular officers was of the greatest value, for while they frankly confessed to great ignorance of the science and art of the profession, yet they understood the necessity and the machinery of military organization and the importance of carefully-kept records. It is not easy for a civilian at first to appreciate the necessity of the detailed care of maintaining the admission, discharge and other books of a military medical unit, and, without wishing to indulge in comparisons, I think I may fairly say that units raised in the Dominions and staffed by men entirely from civil practice at the outset, failed in this respect. In the base records, both in Australia and Canada, there are gaps in the records of patients that should have been avoided. I know that there are cases of patients being entered in the admission books of a hospital, and after this no trace of him, no record of his death, transference or discharge. I personally confess to some indifference to the detailed system in the British Army, but I quickly saw the value and necesity of it. When I was put in charge of an officers' hospital, we here received many enquiries each day, and but for the carefully-kept books could not possibly have answered these satisfactorily. The admission and discharge books contained the following information:—Name, rank, regiment, age, religion, length of service of each patient, the field ambulance from which transferred, the number of the motor ambulance that carried him, date of admission, diagnosis, date of death, discharge or transference, and number of ambulance train that conveyed him. By application to the Railway Transport Office we could discover to which base he went, and by application to the Assistant Director of Medical Services of this base the hospital to which he was admitted could be learnt. To assist a French lady who had a son in the British Army, I, on one occasion traced him, subsequent to his wound, from his regiment to the base hospital, discovering the number of every unit he passed through, these including a field ambulance and casualty clearing station, a motor ambulance convoy, and an ambulance train. Besides the officers above mentioned we had a Quartermaster of 30 years' service, a dug-out, a very useful dug-out, for there was little he did not know of the ways and means of handling the reluctant Army Service Corps officers; he possessed the faculty for acquisitiveness to a high and well-trained degree.

Our Sergeant Major was a regular, just returned from assisting in the Japanese campaign against Khio Chau.

The non-commissioned officers and men were all newly-enlisted members of Kitchener's Army, who had received some military training and some instruction in first-aid and stretcher work. They were an interesting collection of men and youths, comprising many grades of society, but one in willingness and eagerness. They included Private the Earl of Crawford, the premier Earl of Scotland, the manager of a London bank, two Englishmen who had already seen service in the French Foreign Legion, one of whom was a Parisian-born Englishman, who was famous in the vaudeville shows of France as the premier clown, and at last two men of good birth who were serving under names not their own. Some weeks later we were joined in France by an interpreter and three chaplains, an Anglican, a Presbyterian and a nonconformist. So much for the staff.

The equipment was thoroughly inadequate for the work we were called upon to do, and this for several reasons. Theoretically and originallly a casualty clearing station is a semi-mobile unit; that is to say, it is expected to be able to get on the move in 24 hours, and for the purpose is supplied with three three-ton motor lorries. It carries a large quantity of tentage, as its capacity is 200 patients, who were not expected to stay in the unit more than 24 hours. The medical and surgical equipment was practically the same as that of a field ambulance, and in point of fact the unit was supposed to do similar work, but being established at railhead it had of necessity to provide sleeping accommodation and food for a longer stay than the field ambulance. The original idea was to use the casualty clearing station as a sieve and sorting agency, doing the minimum of medical work and sending on patients to the base as quickly as possible.

When the campaign became one of stationary trenches, the railhead and its associated technical units became stationary, and the casualty clearing station became practically a stationary hospital. Permanent buildings were obtained and adapted,

[1] Read at a meeting of the South Australian Branch on March 29, 1917.

and the scope of the work extended. Without increase of personnel or equipment we were told to organize for 500 instead of 200 patients. By increased effort the staff could manage, but by no means could the equipment be made so elastic.

To overcome this difficulty two things were done; a packing case, known as the "Sir Anthony Bowlby's box," because it was suggested by him, was sent to every casualty clearing station. This contained a multitude of valuable things, a high-pressure sterilizer (prior to the receipt of this the unit possessed no means of sterilizing dressings, although of course all the packed and compressed dressings contained in the panniers are supposed to be sterile), rubber gloves, drainage tubing, catgut, silk, a set of eye instruments, additional scapels, scissors, etc., and a few bone instruments.

Secondly, at certain railhead towns were established advanced medical stores, which contained or would obtain practically anything surgical or medical you wished to ask for. These stores grew in size until they became like such a civilian establishment as Messrs. Bickford's or Faulding's.

By these means we could obtain all we needed for every class of work. In addition, low trestles were provided, on which to place the stretchers, and a certain number of beds for grave cases.

All this made the work of greater interest, especially as in quieter times, when no warning of a rush was received, we could and did keep patients for weeks before evacuating them down the lines of communication.

I do not want to take up time in discussing the work of the unit, as I want to say something upon one or two subjects of more strictly professional interest; but, briefly, our career was as follows:

We arrived in France on May 12, and, after a few weeks at Le Havre, we proceeded to a town on the Franco-Belgian border, about 10 miles from Ypres and 12 miles as the crow flies from the trenches. Our personal safety was not affected, except by frequent but curiously ineffectual bomb-dropping by enemy aircraft. These became familiar, and therefore contemptible in the daytime; but they always remained awesome and trying at night.

We started work with accommodation for 200 in an old lace factory, where, under indifferent conditions, we did quite good work. After a month we moved into an excellent building—an ecclesiastical training college—where we had room for 500 men and 20 officers. During this time I was serving as surgical specialist to the unit.

It was then proposed to take over an old and interesting Flemish house in the town and equip it as a casualty clearing station for officers, with accommodation for 40. I was offered the charge of this, and, after some hesitation between this particularly satisfactory post and the surgical work, I accepted the former, as it gave me a charge practically independent, and at the same time some surgery also. In this place I stayed until I left for home, nine months, during which 1,500 officers of all ranks, from generals to subalterns, passed through the hospital. It was well equipped with beds, and many extra comforts were provided by the Red Cross Society. I must, however, pass over the details of its preparation and equipment, except to say that I had 14 non-commissioned officers and men and three of our seven nursing sisters detached for this work.

Bullets and Bullet Wounds.

Periodically during the war statements have been made that the enemy were using dum-dum or explosive bullets. Some of these stories concerned the Eastern front, of which I cannot speak; but the usual experience of the Western front was that there was no evidence of any such thing. In point of fact, the only flat-nosed or dum-dum small arm ammunition I ever saw was some British revolver cartridges issued in error during the rush of the early mobilization. The Russians in some of their publications dealing with German and Austrian atrocities have published photographs of wounds stated to be due to explosive bullets. I have seen and treated wounds very similar, but I do not believe them to be due to this cause.

The ordinary German rifle bullet is the same as that used by the Boers in South Africa, and yet the difference in the wounds caused thereby is most marked. This I believe to be entirely due to the range at which the fighting took place. In South Africa, where the fighting was generally at long range, the bullet wounds were almost peculiar for the small amount of damage done, either to soft parts or bones. It was a common experience for bullet wounds of limbs to be unnoticed, and for bullet wounds of the abdomen to give good results without immediate operation, even when the gut was perforated. The wounds of entry and exit were small, and punctured wounds of the gut were slit-like and valvular, preventing the escape of intestinal contents.

In France, on the other hand, the wounds of entry were often large and lacerated, of exit enormous, and the soft parts were often disorganized and badly mangled, the effect on bones was amazing in the amount of comminution that took place, two or three inches of the shaft of a long bone being reduced to a condition feeling like a bag of dried peas. Abdominal wounds were ghastly, with severe laceration or severance of the gut and amazing damage to soft viscera, such as the liver, kidney or spleen.

There are, I think, three reasons for these marked difference in the behaviour of similar bullets.

(1) Trench warfare, with parapets, barbed wire entanglements, steel shields, periscopes and a multitude of other mechanical aids to warfare has naturally resulted in a high percentage of ricochets and disturbed bullets, which, as all know, produce wounds whose variety is only equalled by their severity.

(2) The momentum of the bullet. Momentum, we are taught, is the multiple of mass by velocity. The mass of the bullet remains the same to-day as in South Africa; but the velocity is vastly greater. In trench fighting at a range of 50 to 200 yards the bullet strikes at almost its maximum velocity. The

momentum of a high velocity bullet at almost point-blank range is immense, and results in an almost explosive effect. Such a bullet, striking say the femur, conveys to it such an impulse that several inches of the bone may be shattered, whereas at a longer range it would fracture it into two or three pieces, or even bore clean through it without producing an actual solution of continuity. Such wounds, of course, occurred during attacks and from long-range sniping behind the lines. I personally removed a bullet half of which was embedded in the external malleolus, but without fracture of the fibula or its lower extremity.

This explosive effect was well demonstrated in head and abdominal injuries. A man hit in the forehead by a rifle bullet at that range will be found to have a small round wound of entry, but the back of the skull would be blown away. The momentum conveys such an impulse to the skull and its contents that the result is a bursting of the cranial cavity.

If such a bullet should hit the liver the organ is often completely disorganized and lacerated and torn in a way apparently incompatible with the size of the missile.

(3) The last explanation is concerned with the flight of the bullet. The last turn of the rifling of the rifle barrel imparts to the bullet a rotatory movement on its short axis, as well as on its long one. The bullet is not only spinning on its long axis, but, so to speak, wabbling on its short one, so that at the moment of impact with its objective it may not strike fairly with its point, but laterally with its shoulder. The result is that the bullet turns and enters broadside on, with dire results. At a longer range the gyroscopic action of the spin on its long axis steadies the bullet and removes the wabble, so that the impact is direct on the point.

One of my patients, an officer in the Flying Corps, had a wound of his left arm which resembled almost exactly those portrayed in some of the Russian publications. He was hit by his opponent with machine gun bullets during a combat in the air. At the same moment he wounded his antagonist, who was forced to descend in the British lines. The remaining bullets in the belt of the enemy gun were carefully examined, and found to be of two kinds, mainly the ordinary nickel-covered lead bullet and a few solid steel, so-called armour-piercing bullets, the purpose of the latter being to penetrate and damage the machinery of the aeroplane.

The wounds of this officer's arm consisted of one of entrance of moderate size, admitting two fingers, situated in the under aspect of the upper third, and an enormous wound of exit on the outer side of the limb. The humerus was broken into two fragments without comminution. The bone had been grazed by the bullet, and thus broken by conveyed violence; the condition resembled the result of a simple fracture. The wound of exit involved the outer aspect of the arm, from the deltoid to the elbow, at least six or seven inches. It gaped widely, and from it protruded damaged muscles and torn aponeuroses soiled by and intermixed with fragments of clothing and hair from his goat-skin coat. In addition, he had another wound of the forearm, with extensive comminuted fractures of both radius and ulna.

It is worthy of note that this man, who was an Australian, safely brought his machine down from an elevation of 6,000 feet and a distance of five miles. I am also glad to say that his arm was saved.

So endless is the variety of bullet wounds that many pages could be filled with a discussion of them. It has been my purpose rather to explain the discrepancy between the size of the wound and the missile than to describe individual wounds.

Gas Gangrene.

The magnificent arrangements for the clearing of a battlefield and the evacuation of the wounded has resulted in a great diminution of the number of cases of gas gangrene. There are still cases of wounded men who cannot be reached for hours or days, and these still yield some examples of this dire condition. During my early days in France, about nine months after the commencement of hostilities, cases were not uncommon, and I saw sufficient to justify these comments. The cases of gas gangrene can be divided into two classes: the mild, superficial or subcutaneous type, and the severe, massive or deep variety.

The milder types result from comparatively slight wounds, such as shrapnel wounds of the foot, with or without destruction of bone. The common peppering with shrapnel bullets, with multiple superficial wounds, is a common source of this type of gas gangrene. It is a cellulitis caused by gas producing bacilli, and behaves as an ordinary cellulitis, with the added gravity and difficulty of progressive pressure from contained gases.

In a very early case the wound or wounds look dirty, with greyish, offensive sloughs and discharge and the presence of gas bubbles. Crepitation can be felt around the wound, and with rapidity the infiltration of gas extends up the limb. One of my cases arose from a shrapnel wound of the middle toe of the left foot. The bullet had passed through boot and sock, and had left jagged and dirty wounds of entry and exit. The proximal phalanx was smashed. Within 48 hours crepitation could be felt as far as the knee, where the tightness of the skin over the expanded upper extremity of the tibia offered an obstruction to its further progress. The wound was dirty and offensive. The gas present was small in amount; there was no distension of the skin and the constitutional symptoms were not grave. In fact, the case was one of the mildest. The obvious treatment was adopted; the damaged toe was removed, the wound left widely gaping, and multiple incisions made into the subcutaneous tissue from the foot to the knee. These were douched with hot saline and peroxide of hydrogen solutions, and peroxide of hydrogen was injected with a serum syringe into the whole circumference of the leg immediately above the knee joint. The patient recovered ultimately with a useful limb. I did not see the latter stages of the case, as the man was sent practically from the operating table to the ambulance train during a time of high pressure.

Had this case received less prompt attention it would probably have become as grave and difficult as another which I had under my care. This soldier, who was only a youth of 17, reached me in an apparently moribund condition; his temperature was subnormal, his pulse very small, with a galloping rhythm in the uncountable region of 160; he was vomiting incessantly, and was apparently dying. He had gas gangrene of both legs. His wounds were multiple and superficial, due to shrapnel, and without bone lesions. Every wound had the characteristic dirty and offensive appearance. Both limbs were immensely swollen from toe to hip, the skin white, stretched and shiny. The limbs were cold, and there was no pulse in the *dorsalis pedis* artery of either foot. The outlook seemed hopeless, and the condition of the patient was such that nothing surgical could be attempted.

Every attempt was made to improve the boy's condition, and with some result. Saline injections, vasomotor stimulants, including pituitrin, cardiac stimulants and the whole gamut of the armamentaria against shock and collapse were employed.

The patient improved, the vomiting stopped, nourishment could be taken, the temperature rose above normal and the pulse became steadier and stronger. In fact, he was almost fit for surgical attention when Nature took matters into her own hands and relieved the situation. Due probably both to the distension and stretching of the skin, and to the virulence of the infecting organisms, patches of gangrene varying in size from a shilling to the size of one's hand appeared in the skin of both limbs. These rapidly gave way and allowed the escape of quantities of offensive sero-purulent discharge. There was an immediate diminution in the size of the limbs and of the pain, while the pulse reappeared in the *dorsalis pedis* arteries. Nature had, in point of fact, played the part of the surgeon, and, giving vent to the pus, had relieved both the subcutaneous pressure and the condition. From that time on the patient progressed slowly and satisfactorily, and ultimately, with the assistance of some skin grafting, recovered, with sound and useful limbs. In this case there was no infiltration or infection of the deeper muscular and fascial planes, or any medullary cavity.

The graver massive form of gas gangrene is seen when the infection involves the deeper aponeurotic, muscular and connective tissue planes, together with the sheaths of arteries, veins and nerves. The danger is greatly increased if medullary cavities are opened and an osteo-medullary infection occurs.

These cases are rapidly fatal, the toxæmia is profound, the constitutional symptoms of the gravest. Drainage by operative measure is difficult to apply and imperfect. Amputation, with free sacrifice of limb, offers usually the only chance of life.

It was the gravity of these cases that led to the custom of performing simple circular amputations without any suturing in all dirty and gas cases operated upon in field medical units. More elaborate amputations, with careful closure of the flaps too often resulted in severe sepsis or gas infections.

Early in the campaign lives were undoubtedly lost in cases in which amputation high up would probably have saved them. In some cases of desperate illness, when the removal of a leg at the hip joint was a hazardous procedure, the patient chose to run the risk of death in the hope of saving his limb by more conservative treatment. Some of them would have survived the amputation and recovered.

Tetanus.

I am mentioning this merely to say that, owing to the invariable injection of antitetanic serum in every case of wound, no matter how small, the disease does not exist in the British Expeditionary Force. I saw not a single case.

Serum rashes of varying severity I saw many times, the worst being in a Royal Army Medical Corps colonel who, perhaps over-cautious, had given himself an injection following a cut with his scalpel during an operation.

Early in the campaign, when wounded men got adrift for days, and when antitetanic serum was not universally obtainable, there were many severe and fatal cases.

An interesting point in the use of the serum arose in dealing with men wounded more than once. There is no certain information as to the length of time protection is conferred upon the recipient of the serum. We made it a practice that if the second wound was received longer than three months after the first, the man must receive a further injection of serum. Then arose the question of anaphylaxis, and there were instances of mild anaphylaxis on re-injection.

I made the rule when a man was wounded for a second time of injecting a small dose of serum and watching the effect. If there was none, I then gave the full dose. This plan worked satisfactorily; at least I had never the anxiety of a case of anaphylaxis.

Abdominal Wounds.

Bullet, bomb, grenade, shrapnel, high explosive and that *rara avis* among wounds, that of the bayonet, afford an enormous variety of abdominal conditions. They can be roughly classed in three clinical groups:—

(1) The hopeless and inoperable, where mutilation of a severe degree has taken place, and from which death is only a matter of minutes.

(2) The desperate, where the damage is so severe or the delay in treatment has been so long, that the prognosis is very bad. All such cases should be operated upon for, as in civil practice, the recoveries are truly wonderful.

(3) The hopeful, where prompt attention and moderate injury make the outlook reasonably good.

Generally speaking, the severe injuries are caused by large shell fragments or the direct result of high explosive, either in a shell, bomb or grenade. The less severe are the result of bullets, shrapnel shot and small fragments of bombs and shells.

As I have already mentioned, there is a striking difference between the bullet wounds of this and the South African war.

There is no abdominal viscus or blood-vessel that may not be injured, either separately or in conjunction with others.

It is not within the scope of this hasty review of medical work with the forces to describe or discuss the enormous variety of abdominal conditions that occur, but I will mention three or four of the cases under my care that illustrate some points in this most interesting branch of the work.

There is often great difficulty in estimating prior to operation the severity of the damage. The clinical signs and symptoms of extensive abdominal injuries are complex and difficult to interpret, and one must rely upon the patient's general condition for the indications for or against operation.

I remember two cases that illustrate this well. A man with a moderate wound of entrance situated the right lumbar region, but no wound of exit, seemed to be in fair condition. His abdomen was distended, without free gas, and was not markedly tender. He was pale and bloodless, but his radial pulse was fair, small and about 120 per minute. There was no marked shock. He seemed a fair case for operative interference, and his wound was less than 24 hours old. His abdomen was found full of blood clot, and whilst this was being scooped out a large, firm, fleshy and detached mass, about the size of a large orange, was extracted. This, on examination, proved to be a piece of liver. The liver, on examination, was found to be completely disorganized, and a jagged, bleeding cavity existed in the right lobe. All that was possible was to arrest hæmorrhage by gauze and sutures and to drain the abdomen. This man died about 12 hours later. The second man had a tiny wound of entrance situated to the right and about one inch below the umbilicus, caused by a fragment of a Mill's hand grenade. He reached me within an hour of receiving the wound. He was collapsed, cold and bloodless. His pulse was small, running and in the uncountable region of 160, his respirations shallow and sighing. He was suitably treated for the shock and collapse, and improved sufficiently to justify operative measures. At 2 a.m.—nine hours after the injury—his abdomen was opened, to reveal a mass of blood clot. This was scooped out. No injury of intestine could be found, and the hæmorrhage had apparently ceased. On examination an hæmatoma the size of a mandarin orange was found in the root of the mesentery, immediately under a small slit in the posterior parietal peritoneum, through which the fragment of grenade had passed.

The hæmatoma was not evacuated; an abdominal toilet was performed, a large drainage tube inserted and the wound otherwise closed. This patient did very well. He was up within three weeks, and evacuated to the base on the twenty-second day. I subsequently heard that the sinus closed without trouble. The sequel to this case is of great interest. Whilst the patient was convalescing at Wimereux he had a sudden attack of hæmatemesis and retching, and vomited up the contents of his stomach, about 5 oz. of blood and the grenade fragment, the size of a little finger nail. He had no further trouble.

It is interesting to surmise how a piece of jagged metal could pass in an antero-posterior direction through the abdominal cavity and perforate a vein in the root of the mesentery without damaging even a coil of small intestine.

The striking difference between these two cases is that the gross and severe injuries in the first case produced less severe symptoms than the comparatively trifling injury in the second.

It is such experience as this that led to the routine plan of operating in all abdominal cases when the patient was not at the point of death.

Another case illustrates the difficulty of estimating the severity of injuries. A man with a rifle bullet wound of entrance in the right hypochondrium and wound of exit in the left lumbar region, seemed in fair condition, moderately collapsed, but with a palpable, though weak, radial pulse. Exploration revealed a penetrating wound of the right hepatic lobe, with extensive disorganization, perforation of the gall-bladder, the anterior and posterior walls of the stomach and bleeding from a large vein in the neighbourhood of the spleen. Packing and drainage were alone possible, and the man died within 36 hours.

Of course, as in the abdominal conditions of civil practice, the prompter surgical interference is possible after the infliction of the wound, the better the prognosis. The results were so deplorable early in the war that efforts were made to push well-equipped units, such as casualty clearing station, as near to the trenches as expedient. This became more and more possible as the war became a stationary one, and at Poperinghe, which is only four miles from Ypres, two casualty clearing stations were working for the whole twelve months I was in that district.

At one, the 17th, there was a very able surgeon, who made it a rule to attempt operative help in the case of every soldier wounded in the abdomen who was not actually dying. He was able to get his cases promptly, usually within twelve hours, and of his first 50 patients 30 recovered. This result of 60% of recoveries must be considered extremely good, when it is born in mind the variety and severity of injuries, that many of the men he operated upon were desperately ill and that extensive peritoneal infection had taken place. One of his greatest successes was a case of double resection for perforating wounds of the intestines. His name was Myers, a Lieutenant of the Royal Army Medical Corps, attached to the No. 17 Casualty Clearing Station, which was raised in Newcastle-on-Tyne.

If you will allow me to divert for a moment to another matter, I should like to mention a subject which the No. 17 Casualty Clearing Station has reminded me of. No one holds in greater detestation than myself the methods of our European enemies, but even the devil should have his due. Much has been said of the deliberate shelling of Red Cross units by the Germans. It is inevitable that field units that are located in close proximity to field batteries, ammunition dumps, transport lines and various headquarters must receive shells intended for other objectives. The systematic searching of the countryside with shell-fire must endanger field ambulance establishments, but I was never aware

of any deliberate shelling of Red Cross units remote from combatant establishments. No. 17 Casualty Clearing Station was an example of what I mean. It was situated on a line of rail and on a parallel road, both running due east and west; it was midway between two towns—Poperinghe, four miles from the German lines, and Abeile, seven miles therefrom. The Germans regularly shelled both towns, dotted shells down both railway and road, but never in the twelve months I knew the district dropped a shell in the hospital area, although the shells intended for Abeile passed over and beyond the hospital.

Trench Feet.

There is naturally much interest in Australia regarding trench feet, since it is appearing so frequently in the local casualty lists.

It is a condition allied to, in fact, practically identical with, frost-bite, but it occurs apart from actual exposure to a temperature at or below 0° C.

Cold of less severity, combined with wet, is the cause, whilst in dry frosty weather the men are able to keep sufficiently warm to avoid true frost-bite.

During the first winter, when the men had to go into badly-damaged, flooded trenches in their ordinary ammunition boots and puttees, remained in them often for weeks without relief, the invalidity from trench feet was heavy, and the damage to the feet severe. During that terrible and severe winter of 1914-15 in France it was not uncommon for a battalion to remain in the trenches for six weeks, and companies have lost during such a time up to 60% of their strength from trench feet alone.

During the last two winters the regular relief from the trenches, and the adequate provision made to protect the feet and legs from damp have reduced the number of cases of trench feet to a minimum.

Every man is supplied with gum boots reaching to the hips, a plentiful supply of socks and underclothing, and whale oil or other grease. He is compelled to rub this into his feet daily, and his platoon commander is responsible for this, and is held blameworthy if his platoon returns an unusual number of cases of trench feet. It is usual for the men to wear two pairs of socks, thick woollen pants, the regulation trousers and his puttees loosely put on. Over this he pulls his gum boots. This, with the regular massage with whale oil, prevents in a great measure the effects of wet and cold.

Deliberate wetting of the inside of the boots has occurred, and is severely punished as a self-inflicted wound, for which there is a special hospital, to which all suspected men are sent pending inquiry and court-martial.

The clinical picture of trench feet is similar to that of frost-bite. In a mild case there is numbness and tingling, considerable swelling and œdema, which may pass on to gangrene and death of tissue. If treated promptly with rest and massage the condition gradually subsides. There is severe pain, necessitating morphine, as the feet become warm and the circulation returns. A persistent plantar neuritis often results.

The severe cases may and have resulted in extensive loss of substance, as much as half the foot becoming gangrenous, and amputation above the ankle joint has been necessary. The clinical phenomena resembles those of very exaggerated and severe chilblains. During the first winter the puttee, which is tightly put on, and tends to tighten still more when wet, was no doubt an accessory cause.

The blood condition of these cases has been carefully investigated. There is usually some anæmia, the affection being commoner in those who stand exposure and hardship the less well. The coagulability of the blood is diminished, as is so often the case in chilblain.

The exhibition of calcium salts has not produced much benefit, but it has not been very extensively or thoroughly tried.

Trench Fever

This epidemic disease, which was widespread throughout both the British and French armies in France, was a source of great interest to all medical men serving there. Many of us regarded it as an irregular form of influenza, whilst many sought to prove it a distinct clinical entity. Personally, for a long time, I regarded it as influenza, but later I became convinced of its distinct character.

It was characterized by a period of pyrexia, lasting three or four days. The fever was irregular in type, with erratic slight daily remissions, and reaching in average cases 102° to 103° F. The decline was abrupt, and the patient felt well.

The fever was accompanied by lassitude, severe headache and aching pains of the limbs, especially along the shins, where hypersensitive spots could sometimes be found.

After the temperature had remained normal or, perhaps, slightly subnormal for three days, there was an abrupt relapse, the temperature reaching its original height, or going even higher. Commonly this relapse lasted about 24 hours, and as abruptly ended, the patient being then convalescent. Sometimes the relapse lasted longer, and frequently there were two or more relapses at regular intervals of three or four days. These cases closely resembled malaria, but no parasites could be discovered.

Some of the cases sent to us as pyrexia, N.Y.D. or P.U.O., were paratyphoid, some were malaria in men who had been abroad, but the majority were trench fever.

It is interesting to note that the malarial mosquito was found in the Flemish trenches, and cases of true ague occurred in men who had not previously been out of England, a matter of importance to us in this country, where all the agents of malarial infection exist.

Examination of the blood, urine, fæces and cerebro-spinal fluid of these cases proved negative. Many investigators sought to trace the infection to

lice and other vermin, but without success, although two volunteers who allowed themselves to be bitten by lice from a trench-fever patient, developed the disease. This experiment, however, persistently failed when it was repeated, the initial success being probably due to fortuitous chance. I believe that the disease is certainly contagious; it occurred among Sisters and orderlies in the casualty clearing station who were free from vermin of all kinds. My only ailment during my service was a mild attack of trench fever, which made me profoundly miserable, although I did not report sick or go off duty. It sometimes made the work of sending men back to duty a matter of difficulty and careful judgement, although when we became acquainted with the regular relapse, the error of sending men back soon after the first decline of temperature was avoided. Frequently, in mild cases, men would stand it in the trenches, and report sick only with the relapse. These men usually arrived in a casualty clearing station comparatively well and without pyrexia. Some cases were severe. General Hoskings, now in charge of the East African campaign, came to me with severe pyrexia (102.5° to 103.5° F.), which lasted with slight remissions for ten days; he felt ill, his pulse-rate was about 100, and his appetite very poor. His chart looked like a lobar pneumonia, but his lungs were free from signs. His blood examination was negative. On the eleventh day he had a sharp remission of temperature, and on the twelfth it reached normal. He had no relapse. The striking point, and a strong argument against classing these cases as influenza, was the absence of catarrhal symptoms of any mucous membrane. This interesting clinical condition still requires an explanation, and remains a mystery as regards ætiology.

This is all that occurs to me as likely to be of interest, but after even only 12 months' service, one has such a mass of experiences, professional and otherwise, that when one's tongue becomes loosened it is easy to go on talking *ad nauseam*.

I, unlike many, am very satisfied with my work with the forces. I had always sufficient, and often too much, to do. With sole charge of 40 beds for officers, it is easy to understand that one was fully occupied, especially when returns and enquiries necessitated two or three hours of office work *per diem*. I was fortunate in my work and in my staff and subordinates, and especially in my superior officers, who helped me in every way, and at the same time left me to develope the work and the hospital along my own lines. I have many sad and many pleasant memories of the time I spent; several friendships still maintained through the uncertain medium of the post, and many sketched or written appreciations from those who passed through my hands. There are many things that seem redundant, a supply of medical men that sometimes seems excessive, and regulations and orders that to a civilian seem unnecessary. But there can be no doubt as to the efficieney and capacity of the staff responsible for the wonderful work of the Royal Army Medical Corps in France. After all, he is a fool who prepares only for the best, and even at the risk of being charged with extravagance, it is better that the medical units should stand ready for the worst, even if time may sometimes hang heavily on their hands.

ARMY DENTAL CORPS WORK IN REFERENCE TO VENEREAL DISEASE.[1]

By **Lieutenant B. Thompson,**
Dental Officer, Langwarrin.

The object of Army Dental Corps work is to make a soldier dentally fit, so that he can receive proper nourishment by thorough mastication of his food, thus improving his general well-being.

When a man's vitality is lowered by disease, it must necessarily follow that a mouth in a state of infection must be an important factor in a protracted convalescence.

In syphilis it is found that septic conditions of the mouth are prone to precipitate stomatitis by the action of the mercurial drugs, and the figures have been shown in this camp that nine out of twelve syphilities lost an average of three weeks' treatment out of their three months owing to septic conditions of the mouth, mainly due to decayed teeth. The above fact being noted, the necessity for oral asepsis demanded that a dental officer be appointed to the camp.

A request was made by the Senior Medical Officer to Major Aitken, through the Principal Medical Officer, with the result that a Dental Officer was readily appointed, and took up his duties on the 29th of November, 1916. After working for four months in this camp, it is now a rarity for mouths to become so inflamed that treatment has to cease for periods varying up to three weeks owing to oral complications. Dental work was commenced at the end of November, and an attempt made, first of all, to clean up all urgent cases.

By the 1st of January organization had commenced, and from that date every man has been inspected on first coming into camp, and an oral hygiene campaign inaugurated. As far as can be estimated, in recording cases over such a short period, the average duration of treatment for mercurial stomatitis for the first two months was twenty-seven days. These were all in men whose mouths had not had previous dental treatment; the mouths were in a very dirty condition.

In the latter two months the duration of treatment has been reduced to an average of twelve days, and the mouths present a clean appearance, with slight sloughing of the gingival edges. The appearance of the stomatitis in the dirty mouths is extensive sloughing around the necks of every tooth, with a peculiar fœtor, and generally accompanied by swollen lymphatics and sore throat, the gums being purplish red and quite spongy. In the clean mouths the gingival edges are slightly hyptrophied, but the sloughing stage is rarely reached; patient complains of a fair amount of pain.

[1] Read at a Meeting of the Victorian Branch of the British Medical Association on , 1917.

The treatment consists in scaling the roots and teeth thoroughly, then polishing with tooth-paste containing a little peroxide of hydrogen. The sockets are sprayed with peroxide, and the gums dried and painted with iodo-glycerol, this formula being:

Iodine	50 parts
Pot. iodid.	15 parts
Zinc iodid.	15 parts
Glycerine	4 parts
Water	4 parts

The following chlorate of potash mouth wash is prescribed:—

Thymol	0.5 part
Pot. chlor.	1 part
Alcohol	70 parts
Hyd. peroxide	120 parts

Sig.—One teaspoonful to half a tumbler of warm water, to be used three times a day after meals.

The patients are examined every three days, and the treatment repeated if necessary. Marked improvement is always shown after an injection of "606."

Summary of Dental Work at Langwarrin Camp from November 29, 1916, to April 13, 1917.

Month.	Extractions.	Dressings.	Fillings.	Root Fillings.	Minor Operations.	Crowns.	Impressions.	Articulations.	Dentures Inserted.	Repairs Received.	Repairs Inserted.
Nov., 1916 (2 days)	33	—	—	—	—	—	—	—	—	—	—
December, 1916	322	26	40	9	30	—	15	—	—	—	—
January, 1917	230	40	72	11	57	1	51	1	9	—	1
February, 1917	103	12	65	5	64	2	35	6	31	3	2
March, 1917	200	38	65	—	74	—	61	12	36	7	13
April, 1917 (to 13th)	37	18	33	7	4	—	8	—	7	2	2
Totals	825	134	275	32	229	3	170	19	83	12	18

In gonorrhœa, it may be a coincidence, but in five cases that were showing little sign of improvement in their "water test," on the extraction of roots with abscess and a thorough scaling and cleaning of the mouth, as the patients were suffering from gingivitis, an immediate improvement was noted, and in a fortnight the patient was discharged cured, a fact suggesting that the septic condition of the mouth was a cause of the protracted convalescence in these cases.

An example of improvement in one case is as follows:—

> The patient was very anæmic and suffering from dyspepsia. He was dull and sickly looking. He had bad gingivitis, with pus exuding from the necks of all the teeth and abscesses on a number of roots. The roots were extracted, decayed teeth filled and gingivitis treated for one month, when the gums had become pink and hard. From the pale, anæmic appearance the patient became restored to quite a healthy, bright appearance, and the "water-test" showed improvement as soon as condition subsided.
>
> Patient was discharged seven days after the mouth inflammation had disappeared. He had had five doses of vaccine during his stay in this camp; the last was given eight days before being discharged as dentally fit.

[1] Since this report was given, the treatment has been changed, with splendid results. After scaling and cleaning as above, the gingival edges are swabbed with chromic acid, 2½% solution, followed by:—

Chloreton	1.6
Glycerini	15.00
Spirit. vin. rect.	15.00

given to the patient as a mouth wash. The sloughing and the soreness have invariably disappeared at the time of the second visit, *i.e.*, after three days.

Reviews.

THE PSYCHOLOGY OF LEADERSHIP.

"Citizen to Subaltern,"[1] by Captain A. W. Hutchin is not a medical work; it is a plain, not very elegantly written, but eminently useful military production. But the author has unconsciously composed an excellent essay on the psychology of the soldier and of the leader of soldiers. He has traced the mental attributes which are essential for a good private, and has indicated in a direct manner how much the efficiency of the private, and indeed of the whole unit depends on intelligent individual, as well as group study and ordered training. Every civilian with the power of reasoning is tempted at first on joining the colours to resist the apparent absurdities of military custom. Military language is seemingly uncouth and irrational, and the soldier is often required to do things that bear a semblance of uselessness. Little by little he begins to understand the reason for these absurd forms and fashions and the objects served by their preservation. Captain Hutchin analyses the mental position of the officer responsible for the training of troops, and smooths out all these curious customs. He makes the ordinary man see why no other way can lead so rapidly to the desired goal.

The soldier must depend on ambition, knowledge and character for his success as a useful fighting member of any force. The author deals ostensibly with the combatant, but much of what he has to say has application to the non-combatant army medical officer. He handles the difficult subject of discipline with skill, and a wide perspective. The lessons he gives can be read with advantage by the young medical officer. While the medical profession is concerned directly with the office of saving life and not of destroying it, this little book on the making of fighting soldiers should find interested readers among the doctors, and should be a source of instruction. After all, all knowledge is worth acquiring. At the present time, military knowledge has a high value.

Vital Statistics.

BRISBANE.

The report of the Government Statistician of Queensland dealing with the vital statistics for the month of February, 1917, of greater Brisbane, have been published in the *Queensland Government Gazette* of March 15, 1917. The number of births registered was 421. This number is smaller than the number of births registered in January, 1917, and than that registered in February, 1916. The birth-rate, expressed as an annual rate, works out at 31.2 per 1000 of population. The illegitimate birth-rate was equivalent to an annual rate of over 1.5 per 1000 of population.

During the month 109 deaths were registered. The number registered in the month of January, 1917, was 157, and in the month of February, 1916, it was 182. It thus appears that there was a substantial reduction in the number of deaths. The equivalent annual death-rate was 8.04 per 1000 of population. The decrease affected children under five years of age. The number of infants under one year of age who died was 22, and consequently the infantile mortality was 52.2 per 1000 births.

Diseases of the cardio-vascular system accounted for 26 deaths out of the total of 109. Of these, 16 were due to organic disease of the heart, 8 to cerebral hæmorrhage, and one each to acute endocarditis and angina pectoris. Of the infective conditions, tuberculosis caused 6 deaths, gastro-enteritis caused 6, syphilis caused 2, broncho-pneumonia caused 2 deaths, and pertussis caused one, as did acute rheumatism, acute endocarditis, acute bronchitis, and puerperal septicæmia. There were 11 deaths from cancer, 2 from diabetes, and 8 from Bright's disease.

[1] Citizen to Subaltern, by Captain A. W. Hutchin, General Staff, Australia; 1917. Sydney: Angus and Robertson, Limited; pp. 152. Price, 1s. 6d.

The Medical Journal of Australia.

SATURDAY, JUNE 9, 1917.

The Referendum.

The Federal Committee of the British Medical Association in Australia determined at its meeting held late in April to ask the members to give a direct reply to a plain question: Are you in favour of the Federal Committee requesting the Federal Government to pass legislation to bring about compulsory enlistment of the medical profession in Australia for service in the Australian Imperial Force, including service abroad? This action of the Federal Committee has been criticized by a certain section of the community on the ground that by demanding conscription for itself the medical profession would be introducing a powerful political lever beneath the stone which now weighs heavily on the people of the Commonwealth. The medical profession has no concern with the provision of combatants, and therefore takes no part in any political movement aiming at the conscription of the community for war purposes. When the question was referred to the people of Australia the vast majority of doctors voted in favour of conscription as private individuals and also as medical practitioners, because they recognized that with an ample supply of reinforcements, the strain on the soldier would be lessened, and consequently he would be able to withstand the inevitable infections and ailments incidental to warfare better than he can now. This question has passed out of the hands of the citizens of this great Commonwealth and the medical profession has no power to reopen it. It has the power and the right to take steps to secure for our fighting soldiers adequate medical attendance. Since the supply cannot be kept up on a voluntary basis, and even if it could, cannot be kept up without the infliction of undue hardships of the willing few, it has been determined that common justice demands that everyone should be required to contribute to the work expected of the medical profession. The members will determine whether the means to this end shall be a form of compulsory service. The reply will be given on or before July 16, 1917.

It has been suggested that compulsory enlistment would meet with universal approval within the ranks of the profession, if this or that concession or condition of service could be imposed. A limited length of service, a promise that men of mature years should not be sent to exposed positions and other suggestions have been offered. Those who make these suggestions and those who offer their services on given conditions do not grasp the full significance of war. The Empire is engaged in a life and death struggle, and her sons have been called upon to make a supreme sacrifice. Many have done so voluntarily, and have paid the full price—for their country's glory. The medical profession stands in a privileged position of being able to work for the Empire as life-savers; but the doctor need not think that his work can be rendered comfortable and free from risk. We have pointed out on numerous occasions that the authorities seek the services of young and virile men for the heavy work near the firing line, while those whose physique is less reliable are reserved for other positions. It is not an advantage that the man of middle age is unlikely to be exposed to danger; loss of youth robs him of being of the greatest use to his country. There is only one way in which the medical man should approach the problem. He should be prepared to place himself unreservedly in the hands of the authorities and be willing to carry out any service required of him. There is little difference between the man who frankly refuses to offer himself and the man who imposes conditions on his offer, which no military organization could accept. We would urge on each member of the British Medical Association, when filling in the voting paper, to consider the call as directed personally to himself, and to answer as a loyal citizen. It should be each man's wish to render the best service he is capable of to his country.

HOSPITALS AND THE STATE.

The hospital question in Australia at the present moment has become involved and confused, largely because there is a noisy section of the community which allows its imagination to run away with it in the matter of reform. A hospital is a peculiar institution, inasmuch as its machinery depends primarily on the good will and active participation of members of the medical profession. Another characteristic of the hospital is that while its working returns a valuable commodity in the shape of cured citizens, this return for money spent is difficult to assess. Hitherto the people, especially in the old world, have accepted the sane basis for the establishment of hospitals that they shall be institutions where persons unable to command medical treatment of private medical practitioners may receive this as a free gift from the charitable public and from the members of the medical profession. The charitable have given freely in support of hospitals, because the poor would otherwise be deprived of the advantage of medical science. In Australia, and under certain well-defined conditions in Great Britain, the State has found it incumbent on itself to make provision for the sick of limited means. The support derived from voluntary subscriptions has not sufficed to cover the ever-increasing bill of institutional treatment of disease, and in order that the man of small means may not be excluded from the benefits of these institutions, the State has agreed to make a large or small contribution out of consolidated revenue. In other words, the task of supporting hospitals at which the poorer section of the community may secure the same treatment as the rich can buy outside, has been transferred in part or wholly from the charitable few to the whole taxpaying community. The source of revenue has been no matter of concern of the medical profession. Its members have been willing to give their services gratuitously to the poor, partly because every doctor desires to extend his practice to the whole community, and is prepared to forego fees when the individual is not in a position to pay them, and partly because the selection of a practitioner to serve on the honorary staff of a hospital has become a sign that he has risen to some eminence in his profession. One of the greatest advantages of the usual hospital system is that the members of the honorary staff are those who have distinguished themselves from among the mass of members of the medical profession. The poor, therefore, obtain the services of the most experienced practitioners without cost.

Sick persons, like healthy persons, are often desirous of obtaining a thing of value for little or nothing. In the matter of hospital treatment, it is easy for a prosperous citizen to claim admission into hospital and treatment therein without payment. The only reason why the average rich man refrains from following this course is his pride; his disinclination to accept a gift which is offered to those who cannot afford to pay for it. In the majority of well-conducted hospitals, there is a system of control by the lay members of the staff, by means of which admission of those whom the hospital was not intended to benefit is refused. The political party that claims everything for nothing naturally attempts to brush aside the distinction between those eligible for admission to hospitals and those ineligible. This party refuses ostensibly to recognize social classes or distinctions, and now refuses to recognize distinctions based on ability to pay. In many cases considerable vigilance is required to prevent the ineligible from obtaining admission to hospitals. Mean persons with good banking accounts at times put on shabby attire to give the impression of poverty. On the recognition of an eligible and a non-eligible hospital class rests the satisfactory working of hospitals. This matter has been considered by sociologists on innumerable occasions, and it has always been found that the utility of hospitals must depend on the principle that general hospitals are provided for the poor. The medical profession at the three last sessions of the Australasian Medical Congress expressed the view that patients treated at hospitals maintained by donations of the charitable and by Government grant should not be allowed to pay, and that, should it be found necessary for the Government to undertake the entire financial support of a hospital, only those who cannot afford to pay for the treatment required should be admitted. In the third place, it has been resolved

that unless this principle be included in any act to nationalize hospitals, the medical profession must reconsider its position with regard to its association with hospitals. These determinations have been affirmed by the Federal Committee of the British Medical Association in Australia at its recent meeting.

The medical profession in Tasmania has endeavoured for some time past to check the practice of the admission of well-to-do patients into the hospitals. The Honourable the Minister has resisted all invitations to uphold the principle. In these circumstances the Tasmanian Branch of the British Medical Association has acted in accordance with the resolution quoted, and has reconsidered its position in regard to the association of its members with the hospitals. After careful consideration the Branch determined that it was not in the best interests of the public and of the profession for medical practitioners to act in an honorary capacity in hospitals where no rule existed excluding the well-to-do from admission. Every medical practitioner holding an honorary appointment in the Tasmanian hospitals placed into the hands of the Honorary Secretary of the Branch his resignation, to be used if the circumstances required it. It was held that medical practitioners should not be required to give their services without remuneration to persons in affluence, and that the general utility of the hospitals would be lessened if the honorary system were destroyed. It is true that in Launceston the honorary members of the medical staff take a very insignificant part in the conduct of the affairs of the hospital and that the public does not gain by this arrangement. We learn that as no guarantee was forthcoming from the Honourable the Minister that the defect in the rules of the hospitals would be remedied by special legislation, the resignations of the medical staff of the Hobart Hospital were decided upon. It is unnecessary at this stage to dwell on the incidents leading up to the resignations becoming effective and to the appointment of salaried medical officers. An erroneous impression has found expression in the daily press, to the effect that the declaration that the acceptance of appointments on the staffs of hospitals at which well-to-do patients are admitted is not in the best interest of the public and of the medical profession, means that the salaried medical officers of both the Hobart and the Launceston Hospitals will be expelled from the Association. As far as we are aware, there is no fact to warrant this interpretation, and in no case will a member be expelled unless it can be shown that he has acted in a manner inimical to the interests of the medical profession. In the course of the negotiations, the doctors repeatedly informed the Board of Management of the Hobart Hospital that they were prepared to act temporarily until satisfactory arrangements could be made, so that no inmate of the hospital would suffer from want of attendance. This proffered assistance was not accepted, as the Board lost no time in securing the services of three medical practitioners to undertake the work in the Hospital. Those in authority will be well advised if they will recognize the value of the services of the most experienced members of the medical profession in hospitals and the advisability of conducting the hospitals on the sound principle referred to. The vital interests of the sick poor are at stake. The introduction of a measure placing the Hobart and Launceston Hospitals on the same footing as the great hospitals of Australia would remove all the difficulties under which the public and the medical profession in Tasmania are now labouring.

THE SYNTHESIS OF PURINS.

During the last seven or eight years many laboratory workers have been devoting their principal attention to experiments on feeding animals with diets of which the composition has been more or less accurately ascertained. The mass of information that has accumulated is very considerable. It is rapidly becoming possible to determine what effects are readily and universally obtainable, and what have only a special significance under restricted conditions. It has, for example, been established that a mixture of the amino-acids, present in the proteins usually fed to any animal, can not only maintain the constancy of the weight of the body, but even promote growth in the absence of any other source of nitrogenous food. The failure by the earlier investigators to demonstrate this fact depended upon the omission from the diet of the minute quantities of fat-soluble material known as "vitamine," "accessory," "determinant," or food "hormone." Rats fed on a mixture of amino-acids and potato starch will show satisfactory growth and will long remain

in good health if they receive daily small amounts of the protein-free alcoholic extract of fresh milk.

It has been known for some time that the purin ring can be synthetized in the animal body when no preformed purin material is present in the supply of food, but the chemical changes which result in the formation of tissue purins are as yet hidden from us. In seeking for some precursor of a tissue constituent in the food, it appears justifiable to suspect that a substance in the food with some chemical structural relationship to the component of the tissues is more likely to be the raw product from which this is made in the body than some wholly unrelated substance. The fact that histidine alone among the amino-acids present in the protein molecule has a chemical connexion with purins in that it contains an iminazole ring has led physiological chemists to examine whether histidine may not be a precursor of the purins formed in the animal organism. An investigation inspired by this idea has been recently completed by H. Ackroyd and F. Gowland Hopkins. When caseinogen or a mixture of caseinogen and lactalbumin is boiled for 24 hours with sulphuric acid the proteins are split into their constituent amino-acids. In the process the whole of the tryptophane and portion of the cystine are destroyed. By precipitation with silver sulphate the whole of the arginine and histidine can be removed from the remainder of the amino-acids. Rats have been fed upon the total amino-acids plus tryptophane, and on the amino-acids after removal of arginine and histidine.

Since the studies of Wiechowski it has been known that uric acid is converted quantitatively into allantoin in most mammals. Allantoin thus forms the end-product of purin metabolism. By estimating the amount of allantoin excreted in the urine, the metabolism of the purin can be followed. In this study observations have been made on the weights of the rats fed on the different rations and on the amount of allantoin excreted during weekly periods. When both arginine and histidine are removed from the ration the rats show a rapid loss of weight, although they grow well on the complete amino-acid mixture. The decrease in weight ceases and the rats start to increase in weight when the missing amino-acids are restored to the diet. When arginine alone or histidine alone is removed from the ration the rats do not lose weight, and they may even increase in weight, though they do not grow as rapidly as rats fed on the complete amino-acid mixture. This result suggests that these substances can be converted into each other, a possibility which appears likely from their chemical constitution. When both arginine and histidine are omitted from the ration the excretion of allantoin is much diminished. On adding these amino-acids again to the diet the excretion returns to the normal level. The diminution in the excretion of allantoin is much less when only one of the amino-acids, arginine or histidine, is omitted from the mixture of the amino-acids fed to the rats. When tryptophane is not added to the diet there is no diminution in the excretion of allantoin, although the loss of weight by the rats is greater than when arginine and histidine are left out of the ration. No diminution in the excretion of allantoin has been noticed when the vitamine is not administered, despite the loss in weight by the rats. These results seem to show that the decrease in the excretion of allantoin is not occasioned by the nutritional disturbance caused by the falling off in weight. They rather suggest that histidine and arginine play a special part in the metabolism of purins. The most probable hypothesis as to the *rôle* of these substances is that they form the raw material from which the purin rings are synthetized.

[1] *Biochemical Journal*, Vol. X., p. 551, December, 1916.

THE TREATMENT OF SHOCK.

One of the many problems which the military surgeon has to face when dealing with extensive abdominal wounds is that of combating shock. It is almost surprising to learn from those who have related their experience of gunshot wounds of the abdomen during the present war that men admitted in an almost hopeless condition have responded extremely well to resuscitatory measures. The lesson may be of great value in civil practice as well as in war surgery. We would direct the attention of surgeons to a reference to this point in an admirable article on the treatment of gunshot wounds of the abdomen by Lockwood, Kennedy, Macfie and Charles, which appeared in the *British Medical Journal* of March 10, 1917. The authors found that if the patient's condition did not warrant immediate operation, marvellous effects of resuscitatory measures were observed, provided that they were applied early. These measures consisted in the giving of subcutaneous and intravenous injections of saline solution, in applying warmth and in elevation. If the patient was restless one ampoule of omnopon (Roche) was given, or at times camphor in oil. Omnopon is a preparation containing all the alkaloids of opium, and appears to be peculiarily suited for allaying pain and subduing the patient without endangering him by undue depression. It is stated that a large proportion of the patients needed these measures prior to operation.

THE VISION OF PILOTS.

A very simple matter has been settled in a very simple and sensible way. The proposal to reduce the sandard of vision for pilots to the standard fixed by the Elder Brethren of Trinity House has been before the Marine Board of Victoria for some time, and protests from the Board's own medical examiner and from the British Medical Association have been registered (see *The Medical Journal of Australia*, April 21, 1917). We are gratified to learn that the Chief Secretary of Victoria has overruled the decision of the majority of the members of the Marine Board, and has determined that the higher standard of vision shall be retained in the public interest. We have already expressed the opinion that the safety of the travelling public and the financial interests of the owners of ships and cargoes must be regarded as paramount, and that

it would involve a grave responsibility if any Minister were to ignore these interests in favour of a few men with defective vision. The Chief Secretary has taken a similar view, and has determined that the higher standard does not impose any undue hardship on pilots.

The following extracts from a letter of Captain A. T. Nisbet to his father contains some interesting impressions obtained of Dakar, in French Senegal:—

After having been at sea for nine solid weeks the Australian troopship put into Dakar, the port and only town of French Senegal. We spent two days there, and during that time realized what the heat of tropical Africa is like. On the second day I was fortunate enough to get ashore. This was indeed a concession, for out of four Australian troopships lying in the port, carrying about 6,500 men, only ten of us managed to get shore leave. Taken ashore by the only white man who had come near us in a very dirty boat rowed by a tall, angular black, I found that Dakar itself was indeed a hot place and that a thick military uniform was not the most comfortable of costumes. The quay was filthy, and all the natives seemed to be allowed to use the place without regard to any form of sanitation. After some trouble I managed to get a broken down, dusty "Victoria," drawn by a horse that an Australian would have shot long ago, and driven by a filthy-looking native.

Dakar stands on the edge of the desert, and is used as a military and naval base. There are a large number of French troops stationed there; but its commercial importance I should think was very small, and what little trade is done consists chiefly of articles brought to the town from the nomadic desert tribes. However, those same desert tribes, no two of whom apparently speak the same dialect and can hardly understand one another, if at all, have proved of much value to the French in this war, for when we were there 80,000 Senegalese had been recruited from the desert and had gone overseas to work behind the firing line. The day the transport dropped anchor there was a strike amongst the natives who loaded coal (coal-lumpers strike even in Senegal!), and the reason was that a French transport had left the day before carrying Senegalese troops and these men's services had been refused. Eventually, after promises that they would go next time they coaled ship. There is apparently no need for a conscription referendum round about Dakar.

After a long drive of about three or four miles I finally arrived at the Government Pathological and Research Institute for Tropical Diseases. When, after due presentation to the heads of the department, they found out that I was one of the many Australians who had come so many miles "to help France" their hospitality knew no bounds. What would I like to see, could they show me slides, patients, cultures, infected animals, in fact, "the whole institute is open to you." Would I be able to come every day and all day, in order to see some experiments they would start for my benefit? How I wished I could, but my time was limited to about an hour, and I had to be on board again by five o'clock, so I asked if they would show me some trypanosomiasis, preferably the sleeping sickness type. Three or four natives were brought in; they were slow in their movements and looked decidedly dull witted. They seemed not to care what was done to them, and their answers to questions were slow and not very much to the point. In order to demonstrate the trypanosome the doctor in charge pushed a hypodermic needle, not attached to a syringe, into the man's supra-clavicular gland, and, drawing it out, blew the small amount of contained blood on to a microscopic slide. Three or four trypanosome were found. At the time they could show me nobody in the very advanced stage of the disease, but they had a dog in the yard which had been inoculated and was then in the late stages. The animal was very emaciated, and lay in a semi-comatose condition. After a great deal of trouble the dog was roused, but only to get up and walk after fifty yards, when he lay down and lapsed into his former condition. The animal showed no sign of understanding when his name was called, and generally appeared to be deficient mentally.

Many other things were shown me which were most interesting, including a magnificent slide of double infection of malaria. However, time was short, and many, many things that these interesting, courteous people wished to show I was sorry I had no more time to see.

Acting as one of the orderlies to the hospital there was a French priest, who spoke English remarkably well. He was quite an old man, and although a scholar of no mean order was performing the duties of what in a civil hospital would be relegated to a ward maid. I had a long talk to him, and found him a most lovable character, and when my French failed he acted as interpreter. Asking him how he, a student and priest, came to be doing such work, he replied that at the time he was not wanted in any other capacity, and, no matter what it was he felt, it was all *pour la France*.

ST. VINCENT'S HOSPITAL, MELBOURNE.

We have been requested to publish the following letter, which has been addressed to the Press by Mr. John Wren:—

Sir,—Owing to the serious shortage in the funds for the maintenance of St. Vincent's Hospital, Melbourne, the completion of the building and the installation of 150 additional beds urgently required for the sick poor, have, for the present, to be held in abeyance through the lack of money.

As a Governor of the Hospital, I personally know that large numbers of the sick poor are daily, though reluctantly, refused admission on account of the Hospital accommodation being already taxed to its utmost limits.

In order to try and do something to remedy this lamentable state of affairs, and bring help to the Sisters of Charity in their great anxiety to assist the suffering poor, and as a means of stimulating the sale of the 1s. miniature pictures, I make this offer:—

I promise to give £1,000 to the person holding the selected miniature picture—the selection to be made by an independent body of gentlemen in such a manner as they may think fit; but if £25,000 be realized from the sale of the miniatures, I will give £5,000 for such miniature. This offer is conditional that none of the miniature pictures be complimentary.

I am induced to make this offer from my knowledge of the urgent and great necessity of St. Vincent's Hospital for immediate monetary aid.

Yours faithfully,

J. WREN.

Melbourne, May 18th, 1917.

BRITISH RED CROSS MONTH.

We have received an additional list of medical subscribers to Lady Stanley's appeal for the British Red Cross up to May 29, 1917. The subscriptions are as follows:—

	£	s.	d.
Amount already acknowledged..	158	16	0
Dr. G. Rothwell Adams	10	10	0
Dr. and Mrs. A. V. M. Anderson	10	10	0
Dr. S. P. Croom	10	10	0
Dr. and Mrs. Dunbar Hooper	10	10	0
Dr. and Mrs. B. T. Zwar	10	0	0
Dr. and Mrs. T. A. McLean	5	5	0
Dr. H. W. Sweetnam (Tasmania)	1	1	0

Professor Richard James Arthur Berry has been selected as the representative of the University of Melbourne to serve on the Council of Public Education in the State of Victoria.

Abstracts from Current Medical Literature.

SURGERY.

(175) The Treatment of Wounds.

W. Pearson (*Lancet*, March 24, 1917) is convinced after an experience of over two years of war surgery that no general agreement has been reached among surgeons in regard to the principles of wound treatment. He states that he has modified his method of working but slightly after two years in France. He claims that his results have been and are excellent. *Ubi pus, ibi evacua* is a surgical maxim which is as generally accepted as it is old. All surgeons are agreed on the necessity for drainage in dealing with sepsis. He points out that two schools exist in which different views are held regarding drainage. The antiseptic school pin their faith to the use of antiseptic solutions. They hold that antiseptics can diminish or destroy the bacteria *in situ*, and thus subdue the sepsis. The followers of this school admit that by drainage alone unsatisfactory results are obtained. The author considers that their method of applying drainage must be inadequate. He claims that the number and variety of antiseptics reveal the weakness of this doctrine. He regards the hypochlorite group, exemplied by eusol, as the most fashionable at the present time. The second school he calls the "concentrated saline school." This school has been called into existence by Almroth Wright. The teaching of this school is that it is impossible to destroy all micro-organisms in an infected wound by means of antiseptics without destroying the tissues themselves. Sepsis and infection are best combated, according to Wright, by promoting free secretion into and discharge from the wound, and this he seeks to achieve with the aid of irrigation with concentrated solutions of saline. The author recognizes that Wright has demonstrated the importance of drainage by the advocacy of his method, but he emphasizes the view that the lessons to be learned by practical surgeons have been somewhat obscured by the undue prominence given to the rôle of the concentrated solution of sodium chloride. He believes that the advocacy of Wright's method, and more recently of the eusol methods, has possibly done harm, and has tended to obscure the main issue. The paramount importance of good mechanical drainage has been lost sight of. It is universally agreed that sepsis cannot be dealt with adequately, either by antiseptics or by the application of concentrated solutions of saline, unless drainage be added. The author states that it is not generally recognized that wound infection can be thoroughly and efficiently controlled by mechanical drainage, without the aid of either antiseptics or saline in the wound itself. He does not assert that these aids are harmful or injurious, but he is convinced that they are unnecessary, provided that good and sufficient mechanical drainage be supplied. The surgeon should ask himself the question when confronted with a case that is not progressing satisfactorily: "What is wrong with the drainage system in this wound?" The answer will, in the majority of cases, supply the key to successful treatment, save in the presence of severe systemic infections and gas gangrene, both of which are fortunately uncommon. The author appends his method of applying drainage.

(176) Right Colectomy.

Peer P. Johnson (*Boston Med. and Surg. Journ.*, February 22, 1917) states that there exists a great diversity of opinion as to the advisability of operative procedures for the relief of intestinal stasis and its concomitant toxæmia, depending upon functional disturbances of the colon. Lane's operations of total colectomy and ileo-sigmoidostomy in America have left much to be desired. Crippling post-operative adhesions are apt to occur after total colectomy. As, being less extreme, colo-colostomy and caeco-sigmoidostomy as a means of overcoming stasis are mentioned only to be condemned as illogical and unsatisfactory operations. X-ray examination in three cases where these operations were done showed the barium travelling by the normal route instead of through the artificial stomata in two cases. The third showed, after caeco-sigmoidostomy done for inoperable cancer of the sigmoid flexure great distension of the colon and the presence of a fæcal mass in the left lower quadrant. These conditions were relieved by a left colostomy. Right-sided colectomy, by which is meant the removal of the terminal five or six inches of the ileum, the caeco-colon and the first few inches or more of the transverse colon, appears to be less unpleasant post-operatively, and to be quite as satisfactory in relieving stasis as total colectomy and ileo-sigmoidostomy. It removes the most common site of stasis and the most important surfaces from which the toxic substances are absorbed. Bloodgood appears to have been the first to establish its value for conditions which he first described as chronic gastro-mesenteric ileus, and later as chronic dilatation of the ileum. The author has been greatly impressed with the striking benefit obtained from this operation in selected cases, and the absence of unpleasant end results traceable to the operation itself. Only cases in which relief has not been obtained by simpler means are considered suitable for operation. The patients in these cases are in a most wretched condition, going from doctor to doctor and hospital to hospital, seeking relief which they rarely receive. They are either considered to be neurasthenics and treated as such, or when believed to have organic disease the wrong organ is deemed to be the source of trouble, and they are subjected to needless operations, such as gastro-jejunostomy, appendicectomy, oöphorectomy, or hysteropexy. A brief summary of the indications for operation and the end results in a series of twelve cases of right colectomy is given.

(177) Fracture of the Patella.

E. Wyllys Andrews (*Surgical Clinics of Chicago*, February, 1917) points out that during the past ten years the fragments of a fractured patella have not been drilled and no wire has been used in the bone itself in his clinic. He performs an operation for a closure of the rent in the anterior half of the capsular ligament by numerous sutures inserted from side to side. He regards the patella only as a sesamoid bone in the course of a tendon whose repair takes care of itself, the essential and curative process being the repair of the ruptured joint capsule. Although many surgeons are sceptical and hostile, he carries out the following after-treatment: Early active and passive movements of the knee-joint after operative reduction. No cast or support is used, and the knee is bent on the operating table the day following the operation and all subsequent days until recovery. Active and voluntary leg movements involving the broken bone are practised. At the end of a fortnight all dressings are removed and the patient made to flex and straighten his knee by his own muscles. The author believes that with proper suturing the capsule is enormously stronger the day after operation than at any subsequent time until tissue repair is under way, and that repair goes on more rapidly, and certainly in parts that are daily moved and massaged. By treating a fractured patella in this manner it is found that when the patient uses his limb after complete union no disability and limitation of movement persists. The method of operating is given in detail.

GYNÆCOLOGY AND OBSTETRICS.

(178) Myoma of the Uterus.

W. J. Mayo (*Journ. Americ. Med. Assoc.*, March 24, 1917) records some of his experiences of uterine myomata, with special reference to myomectomy. He considers the absence of myomata in voluntary muscle, and the frequency of these tumours in involuntary muscle is undoubtedly connected with the primitive power of contraction of smooth muscle fibres and their ability to hypertrophy quickly in response to demand. He records the fact that 12% of white women and 50% of coloured women of 50 years of age have uterine myomata, and considers that, in view of this high percentage, only a small proportion of women with myomata have symptoms. He therefore cannot accept the opinion, so frequently expressed, that every myomatous uterus should be considered surgical. Ex-

cluding non-symptomatic uterine myomata, he is of opinion that the lives of 30% of women who have myomata which cause symptoms would be materially shortened if the tumours were not removed. The most common operative indications are: (*a*) hæmorrhage, (*b*) degeneration 22%, (*c*) malignancy 4%, (*d*) pressure effects. The treatment of uterine myomata by irradiation (γ-rays or radium) is contra-indicated in degenerating and submucous tumours where inflammatory disease of the ovaries and tubes coexists, and in all doubtful tumours. Irradiation has especial destructive effects on nuclei (Cornell), and acts markedly to obliterate capillaries (Colwell and Russ). He admits that he has had only a limited experience with this form of treatment, but asserts that in a satisfactory curative application the function of the ovaries is destroyed as completely as if they were removed by operation. To the contention that it is a safer method than operation in anæmic patients with a high blood pressure, he asserts that he has operated many times when the hæmoglobin content was under 30 and twice when it was under 20, and that he has frequently operated without mishap on patients with uncomplicated arteriosclerosis and a blood pressure varying between 180 to 240 mm. or more. Uterine myomata are frequently associated with goitre, and the operative risk depends on the condition of the thyroid. Heart lesions do not contra-indicate, if compensation is well established. He regards hysterectomy for all symptom-producing myomata as the operation of choice, and favours the total rather than the sub-total operation in all cases of erosion, cystic degeneration, or other disease of the cervix. He favours the conservation of the ovaries wherever possible, on account of the unpleasant physical effects following their removal. When they cannot be left *in situ* on account of inflammation of the tubes, etc., he advises autogenous grafts according to the method of Tuffier. He has been able to save one ovary in more than 50%, and both in more than 25% of all hysterectomies for myoma, and therefore, from the standpoint of conservation, he regards hysterectomy as preferable to radium or X-rays, especially because by this treatment the ovaries are destroyed. He considers myomectomy the only true conservative procedure, and states that the mortality in selected cases is no greater than hysterectomy. Of 504 patients in his own practice, only four died (*i.e.*, 0.8%), and only five required subsequent hysterectomy for recurrence. It was rarely carried out in patients over 35 years of age, and usually in patients under 30 years. Fourteen of his patients were pregnant when the myomectomy was performed, and the majority went to term and were delivered of living children. Twenty-four of his 504 myomectomized patients had living children subsequently to the operation, and seven had two or more. Five others were pregnant at time of writing. Finally, he considers the fact that 38 of the children survived, a strong argument for the conservative operation whenever possible.

(179) Hæmorrhage of Ovarian Origin.

E. Novak (*Journ. Americ. Med. Assoc.*, April 21, 1917) discusses the subject of acute abdominal hæmorrhage emanating from the ovary. He gives a full report of a girl, aged 15 years, who was operated upon by him for abdominal hæmorrhage caused by the rupture of a small, thin-walled follicular cyst of the right ovary. He finds from a search of the literature that von Beust, in 1914, reported 36 cases, and that since then only three cases have been reported by Lipscomb, Dansey and Browne, so that with his own case only forty are on record. These cases do not include cases of hæmorrhage due to ruptured ovarian pregnancies, or hæmorrhage which accompanies the occasional rupture of large ovarian cysts. In several of the cases the coexistence of intra-uterine pregnancy was recorded, and in his own case there was an unruptured, small, old and retrogressive tubal pregnancy in the opposite tube. The causes of abdominal hæmorrhage emanating from the ovary (perforative ovarian hæmorrhage) are similar to those of the non-perforative type, in which the blood is confined within the ovary, giving rise to hæmatomata of various sizes. The predisposing factors are any conditions which bring about active or passive hyperæmia of ovary, with enlargement of its vessels, and the bleeding usually occurs from the thecal vessels of structures derived from graafian follicles. Frequently it comes from the walls of atretic follicles, but even more often from the walls of *corpora lutea* or cysts of these bodies, and the escape of blood into peritoneal cavity is dependent upon their nearness to the surface of the ovary. He quotes individual cases to show the importance of trauma as an exciting cause of ovarian hæmorrhage. He asserts that the quantity of escaped blood may vary from two tablespoonfuls up to three pints or more. There is nothing characteristic about the symptomatology of ovarian hæmorrhage, and menstruation does not seem to be much disturbed. The usual signs of internal hæmorrhage occur. It is sometimes confounded with acute appendicitis, and very frequently with ectopic gestation.

(180) Fibroids and Pregnancy.

B. Solomons (*Dublin. Journ. Med. Science*, February, 1917) in a short note relates his experiences of fibroids complicating pregnancy gained during the past five years whilst operating. Firstly he comes to the conclusion that sterility is rarely due to fibroids of the subserous and interstitial type, and that myomectomy does little good in curing barrenness in these cases, except where they are accompanied by marked displacement of uterus. When the myoma is submucous and grows into the uterine cavity, the removal of such tumours leaves the patient in a better condition for future impregnation. In performing operations for these growths great care must be taken to stitch the endometrium back into its place before sewing up the muscular walls of the uterus, otherwise severe and even fatal hæmorrhage may occur. He strongly recommends No 4 iodine gut as suture material, and advises the stitching of the peritoneal surface of wound by means of continuous button-hole sutures. If these precautions have been taken, the onset of labour, even after a large myomectomy, may be awaited with the utmost confidence. He next considers what happens when pregnancy occurs in a uterus which contains myomata. Abortion or premature labour might terminate the pregnancy. The tumours might become incarcerated and gangrenous, or, if pedunculated, twisted and separated off. They might hypertrophy, and red degeneration might develope. Briefly, the rational treatment is to extirpate the tumour if it is likely to give trouble during parturition; if not, to leave it alone. He records a case of a three months' pregnancy complicated by multiple fibroids, some of which invaded the cavity, which necessitated hysterectomy, and expresses the opinion that when multiple fibroids complicate pregnancy, this procedure is usually necessary. He states that, in his experience as well as in that of others, if myomectomy is performed during pregnancy, the chance of miscarriage is very great. At full term cervical myomata may cause absolute obstruction, necessitating Cæsarean hysterectomy; if sessile, and if pedunculated, they should be excised and an expectant attitude taken. During the puerperium myomata may slough or red degeneration may occur. In the presence of any degeneration hysterectomy should be performed.

(181) Separation of Symphysis Pubis.

Beach (*Americ. Journ. Obstet.*, February, 1917) is of opinion that pathological separation of the *symphysis pubis* during labour is not as infrequent a complication as the reported statistics would lead one to believe, as many cases are unrecognized, and many are unreported for fear of criticism by the profession. He divides the ætiological factors in to (*a*) predisposing, including (*i.*) normal increased mobility of pelvic joints during latter months of pregnancy, (*ii.*) repeated child bearing, (*iii.*) any disproportion between size of pelvis and fœtus, and (*iv.*) disease of joints, and (*b*) causative, including (*i.*) spontaneous rupture caused by excessively strong uterine contraction, and (*ii.*) traumatic rupture caused by some forcible delivery. This cause accounts for almost all cases. Symptoms are usually sudden delivery in a previously difficult forceps case, accompanied by a grinding sensation, crepitation or pistol-shot sound at time of rupture. In conclusion, he quotes a case that came under his notice, in which a 3 cm. separation and definite mobility of bones, with absence of subjective symptoms of any sort, resulted,

British Medical Association News.

SCIENTIFIC.

A meeting of the Victorian Branch was held at Langwarrin Camp on April 26, 1917. The attendance was large, there being about 100 members present, some of whom had travelled from distant places, such as Sale and Bendigo.

Lieutenant B. Thompson read a paper in the Dental Ward on "Army Dental Corps in Reference to Disease." The text of the paper will be found on page 485. He demonstrated two cases for the purpose of showing the rapidity with which the mouth could be cleared of lesions after injections of salvarsan or luargol.

In the ward set aside for the treatment of syphilis, Captain M. M. Peri, the Medical Officer, gave an account of the methods employed. He had used salvarsan, neo-salvarsan and other arseno-benzol compounds during his period of service, but had more recently given preference to luargol. The results obtained were satisfactory, and the patients suffered little inconvenience. The treatment consisted in three injections of luargol, beginning with 0.05 gramme, and increasing to 0.3 gramme, and eight injections of 0.6 c.cm. of grey oil. At the end of the course the blood was tested for the Wassermann reaction, and if this proved negative the patient was discharged and given 100 mercury pills, which had to be taken during the following three months. He was then required to report himself. Captain Peri had found that the patients, having experienced the fearful effects of the disease, never failed to carry out the treatment prescribed after they had left the ward.[1]

He proceeded to demonstrate a series of cases.

Case I.—*Hard chancre of the penis.* The patient had received seven injections of grey oil, and had still to receive one more. The sore had cleared up. He was then doing duty, and was receiving full pay. The incubation in this case had occupied seven days. The dose given was 0.6 c.cm. of a 10% solution of grey oil.

Case II.—The patient was admitted on April 4, 1917, with a *syphilitic bubo.* The gland had been removed, but the scar had broken down. The patient was suffering from tachycardia. He had had two injections of luargol and eight of grey oil. He was greatly improved.

Case III.—The patient had consulted a dentist on March 26, 1917, and had had a tooth stopped. Ulceration was present on the mucous membrane covering the upper jaw, behind the right upper lateral incisor tooth. A positive Wassermann test had been obtained from his serum. *Spirochaetae pallidae* had been found in films prepared from the scrapings of the ulcer. On having been questioned as to the source of infection, the patient admitted that "he might have kissed someone." On March 29, 1917, an injection of luargol was given, and one of grey oil. He had his final dose on April 10. He had received 0.05, 0.1, 0.15, 0.2, 0.25 and 0.3 c.cm. of luargol in the successive injections. The ulceration had cleared up and the tooth had become healthy.

Captain Peri pointed out that one advantage of luargol was that it could be given in the presence of heart trouble or kidney affections, without giving rise to ill-effects. A patient would be admitted into the hospital in the morning, would be given bread and milk, would receive his injection and would be sent to bed. He would be able to rise on the following morning. There was often some shivering, a rigor and other symptoms, but no bad results had been observed.

He had given between 400 and 500 injections. He gave luargol and grey oil once each alternate week. Inunctions of blue ointment were also employed. He was satisfied that the care of the mouth was a great aid to the success of the treatment. Before a patient was treated he was sent to the dentist. Salivation did not occur if the mouth were kept clean.

Captain Peri stated that the solution injection was rendered distinctly alkaline. If warmed, the alkaline solution took up the luargol more rapidly. He used normal *liquor potassae,* and tested the alkalinity with litmus. The injections were given intravenously and not intramuscularly, because sloughing often followed the latter method.

He had given galyl in doses of 0.3, 0.45 and 0.6 gramme without bad results.

Case IV.—The patient had had a *chancre* five weeks before admission. There was still some rash to be seen. He had received two injections of luargol and three of grey oil. The patient had been much benefited.

Case V.—The patient had been admitted on March 22, 1917. The chancre had appeared four weeks previously, two days after exposure to infection. There was a rash on the body. The Wassermann test was negative. The chancre had not healed. The patient had been given two injections of luargol and three of galyl, as well as four of grey oil. The chancre had commenced to heal soon after the first dose of luargol.

Case VI.—The patient was suffering from *gonorrhoea* and a *chancre of the penis.* The signs had been present for four weeks, and the incubation period had been one week. The Wassermann test was positive. The patient had received two doses of galyl and luargol, and three injections of grey oil. The chancre was healing.

Case VII.—A *chancre* had developed three days before, 27 days after exposure to infection. The Wassermann test was negative. The chancre had healed. A second test of the serum would be carried out.

Patients suffering from syphilis remained in the hospital for from eight to ten weeks. They were not sent back to the ranks until there was no obvious lesion and until the Wassermann test was negative.

Case VIII.—The patient had both *gonorrhoea and syphilis.* He had seen 20 months' active service. He was suffering from pain, the result of shell shock and spinal injury. The primary sore was seven weeks old. The incubation period was six weeks. He had received three injections of luargol and four of grey oil. He had improved greatly under the treatment, and was then anxious to obtain his discharge.

Captain C. H. Johnson, the Medical Officer in charge of Langwarrin Camp, gave an account of the routine methods employed at the camp. After making some preliminary remarks in regard to the effect on discipline of paying men during the whole course of their stay in the hospital, of holding back a certain amount as deferred pay, which would be forfeited in the case of bad behaviour, and of putting the men on full pay as soon as they were able to resume military training, he passed in review the necessity of a co-operation between the Army Medical Corps and the Army Dental Corps in connexion with venereal diseases.

He then proceeded to deal with gonorrhœa and its complications, and the routine treatment employed by him. For the purpose of confirming the diagnosis it was necessary to prepare properly stained films and to recognize the gonococcus. When Pappenheim's method was employed, all micro-organisms were stained red, and the gonococci appeared a very brilliant red. The protoplasm of the cells took on a pink colour, the nuclei became green and the nucleoli became red. The film should be stained for not less than five minutes; overstaining was impossible when the following solution was used:—

Methyl green, 0.15 c.cm.
Pyronin, 0.45 c.cm.
Alcohol, 2.5 c.cm.
Glycerine, 20.0 c.cm.
2% aqueous solution of carbolic acid, to 100 c.cm.

The film should be washed, after staining, with water and then dried and mounted.

Another staining method was Leszynsky's. The film was stained for one minute in the thionin solution, which was made up as follows:—

Saturated aqueous solution of thionin, 10.0 c.cm.
Liquid carbolic acid, 2.0 c.cm.
Distilled water, 88.0 c.cm.

The film was washed with water after staining, and then treated for one minute in a fluid consisting of equal parts of a saturated aqueous solution of picric acid and a 1 in 1,000 aqueous solution of potassium hydrate. The film was again washed in water and then treated for five seconds with absolute alcohol. It was then dried and mounted. The intracellular gonococci stained black in films prepared in

[1] Luargol is obtainable from Messrs. Donald Ross & Company, of Angel Place, Sydney.

this manner, while other bacteria stained a yellowish red or red.

Captain Johnson described the course of treatment given in cases of gonorrhœa. On admission two pills were given to each patient. Each morning for at least one week a dose of *mistura alba* was given as a routine. In addition, every patient was given a mixture containing sodium salicylate and potassium bicarbonate three times a day for ten days or more. The regulations exempted all patients kept in bed from fatigue duties. Every patient was instructed not to infect his eyes after handling his penis. A piece of cloth soaked in 1 in 3,000 perchloride of mercury solution was applied to the glans. This cloth was changed frequently. All soiled lint had to be placed in a special receptacle. According to instructions no irrigations or injections were given to any patient who complained of pain in the testicles or in the groin, or whose testes were swollen.

He pointed out that the following routine had been adopted in the Australian Military Forces in order to ensure uniformity in the treatment of gonorrhœa.

As soon as a patient was admitted for treatment, a smear of the discharge was taken and a search was made for the presence of gonococci. If gonococci were found and the infection were not more than 48 hours' duration, the so-called abortive treatment was adopted. This consisted in one of two methods: (*a*) Injections of 10% solutions of argyrol or protargol were given into the anterior portion of the urethra three times a day. The fluid was retained for from five to ten minutes. (*b*) Irrigation of the anterior part of the urethra with 1 in 1,000 solution of potassium permanganate was carried out twice a day. The interval between the irrigations was nine hours. During the second and third days injections of 1 in 3,000 solutions were carried out twice a day. From the third day onwards, injections of 1 in 6,000 solutions of potassium permanganate into the anterior and posterior portions of the urethra were given once a day.

When the disease was well established at the time of the admission into hospital, or was so advanced that further application of the abortive treatment would be useless, the so-called routine treatment was applied without delay. This comprised: (*a*) General treatment. Under this heading was included the regulation of the action of the bowels. A regular and active evacuation must be obtained. Hot baths and other measures aiming at personal cleanliness should be employed, and frequent flushing of the urethral canal with bland fluids should be encouraged. Spices and condiments should not be taken with articles of diet. (*b*) Irrigations. Irrigation of the urethral canal should be carried out by means of a douche can raised from four to six feet above the level of the bladder. Valentine's nozzles were regarded as the best for the purpose. The irrigation should be under the direct supervision of a trained non-commissioned officer in the case of all new patients. About 1.8 litres (three pints) of a 1 in 3,000 to 1 in 5,000 solution of permanganate of potash at a temperature of 37.8° C. (100° F.) should be used for a single irrigation. In obstinate cases 1 in 3,000 to 1 in 4,000 solutions of silver nitrate, or 1 in 10,000 solution of perchloride of mercury, or sanitas at times acted better than the permanganate of potash. In acute cases, when there was much congestion and pain on micturition, the irrigation should be limited to the anterior portion of the urethra; when the acute symptoms had subsided, urethro-vesical irrigations should be adopted. The patients were put to bed and all active treatment suspended if there was any bleeding at the end of micturition, accompanied by pain during the passage of urine. In these cases the use of sitz-baths often proved very beneficial. (*c*) Injections. Injections of the proteinates of silver in solutions varying in strength from 5% to 20% were used in conjunction with irrigations. During the acute stages the injections should be applied to the anterior portion of the urethra only, but in obstinate cases instillation into the posterior portion was advocated. (*d*) Prostatic massage. While irrigations and injections were being employed, a watch was kept on the protate gland and the seminal vesicles. This was effected by digital examination *per rectum*. When any sign of prostatitis or of any involvement of the prostate appeared, the gland was massaged once or twice a week. It was held that regular massage tended to prevent the organ from becoming involved in the process. (*e*) Vaccine therapy. The use of mixed infection vaccines during the acute stages was said to prevent the spread of the infection to the posterior portion of the urethra. The tedious treatment of chronic urethritis and of gleet was thus done away with and complications were reduced to nil. (*f*) Medicinal treatment. During the acute stages, copaiba or sandalwood oil was at times given three times a day.

In regard to the evidence of cure, Captain Johnson said that when there was no trace of urethral discharge or gleet in the early morning ("short arm parade"), the prostate was examined. If no abnormal signs could be detected and no fluid could be expressed by massage, the patient was passed on for the "water test." Before this was carried out, a smear of the mucus from the urethra was stained for gonococci, if the services of a bacteriologist were available. The "water test" was carried out in the early morning. The first urine of the day was passed in the presence of the medical officer. The urine should be clear, and there should be no shreds or pus. When the patient had passed two "water tests" in succession, he was regarded as fit for discharge to duty.

Captain Johnson dealt with some of the more common complications. Balanitis was dealt with by washing the subprepucial space with a weak solution of potassium permanganate once a day and by injecting some 10% argyrol solution under the foreskin. Fomentations were required when there was much swelling. Epididymitis occurred in approximately 25% of all cases. The treatment consisted in rest in bed, suspension of the scrotum by means of suspensory or T bandages, hot applications and painting with glycerine and belladonna or glycerine and ichthyol. Gonorrhœal rheumatism was often resistent to treatment, and required patient and persistent efforts. The best results were obtained with vaccines and local injections and irrigations.

The treatment of soft contagious sore was as follows: Externally campho-phenol and iodoform were applied and zinc ionization employed. Internally iodide of potash and tartar emetic (0.1 gramme in 100 c.cm.) were given and saline solution injected intravenously every four days. He advocated delaying the incision into buboes as long as possible. He employed the following lotion:—

Liq. plumb. subacet., 2.00.
Liq. ammon. fort., 1.00.
Spr., vini rect., 12.00.
Sol. alumin. acetat. (3%), ad. 100.00.

He also gave intramuscular injections of from 0.025 to 0.1 gramme of antiluetin, with 0.025 gramme of hydrochlorate of cocaine.

In regard to the treatment of chancroid, Captain Johnson referred to Goubeau's modification of Czerny's method. The surface of the chancroid was cleaned by means of swabs of cotton wool soaked in ether and all traces of pus removed. To the surface was then applied sodium arsenate, 1 part in 50 of 95% alcohol by means of a small brush or cotton wool wrapped around a glass rod. A second application was made. The sodium arsenate dried as a film as soon as the alcohol had evaporated. The swabbing was repeated each day, but it was rarely necessary to continue this for more than three or four days. At the end of this time the chancroid was transformed into a healthy red wound, with a tendency to cicatrize rapidly. The surface should then be sponged with ether and dusted with iodoform. Healing was usually complete in eight to ten days. Goubeau advocated the injection of 1 c.cm. of a 1% aqueous solution of sodium arsenate into the gland for bubo.

The routine treatment applied in cases of syphilis was as follows:—

The treatment should be instituted as soon as the diagnosis of syphilis could be made. The object of the treatment was to get the soldier back to the lines as soon as was consistent with reasonable chances of permanent cure. It consisted in (*a*) Intravenous injections of arseno-benzol preparations. Three injections were given, with two weeks' interval between each injection. The dose should be from 0.3 to 0.6 gramme of arseno-benzol. (*b*) Intramuscular in-

jections of mercury. These injections should be given alternately with the arseno-benzol injections at first, and later one each week from the sixth to the tenth week. (*c*) Inunctions of mercury. If secondary symptoms or signs of generalization of the disease become evident one or two extra injections of arseno-benzol should be administered. The mercurial treatment should also be extended for a further period of six to eight weeks, during which time four or five intramuscular injections should be given. (*d*) A course of mercury and iodide given internally should be added. (*e*) After the termination of these courses of treatment the serum should be tested by the Wassermann method. If the test was negative, the patient was transferred to the lines. No man was discharged as non-infective until all induration at the site of the primary chancre had disappeared.

The instructions in connexion with the prophylactic tent were as follows:—

(*i.*) The soldier is made to empty his bladder and thus wash out the urethra.

(*ii.*) The penis, scrotum and surrounding parts are then thoroughly washed with warm water and ether soap. The parts are then to be swabbed with perchloride of mercury solution (1 in 2,000). The parts about the glans, frenum and scrotum and any abrasion of skin to receive special attention.

(*iii.*) The meatus and glans having been thoroughly cleaned, an injection into the anterior urethra is to be given of one of the following solutions, for preference nargol: nargol (5%), argyrol (20%), protargol (10%). The quantity to be injected should not exceed one drachm. The injected fluid should be held in the urethra for ten minutes.

(*iv.*) Finally, the parts are to be smeared with a 20% calomel ointment, then a small quantity of the ointment is to be inserted into the meatus.

In reply to questions, Captain Johnson stated that 90% of the patients had been able to go on active service after passing through the camp. The ratio of syphilis to gonorrhœa was as one is to six. The cost of drugs averaged 7s. 6d. per man. There had only been one case of gonorrhœal ophthalmia in the camp. No case of iritis had occurred. Less than 1% of the men discharged after an attack of gonorrhœa had returned to the camp. He regarded this as a good record. He admitted that it was difficult to assert that a man was free from gonorrhœal infection. He had great faith in vaccines for gonorrhœa. The object of the camp was to render the infected men fit for service in the Army. He believed in circumcision, but he had seen a chancre on a circumscribed penis.

He expressed the opinion that medical practitioners would have an unpleasant prospect when called upon to sign a statement that a man had been cured, as required by the provisions of the Venereal Diseases Act. Under military rule the patients were discharged as fit to return to the lines and not as cured.

Captain Johnson read the following records of the work in the camp:—

From the Time of Establishment up to December 31, 1916.

Number of patients admitted to isolation	5,592
Number of patients passed through camp	5,303
(*i.*) Discharged cured to lines	4,525
Discharged from force, unfit	285
Released from A.M. Forces	68
Discharged cured of venereal disease, but sent to other hospitals for other complaints	425
(*ii.*) Remaining in isolation under treatment	289
Australian Imperial Force—	
Cured or non-infective, and returned to line	85.7%
Discharged from Force	5.3%
Discharged to other hospitals, but cured of venereal disease or non-infective	8.0%

From Opening of Camp to End of March, 1917.

Total number admitted	5,872
Total number discharged	5,679

1916.

Venereal Diseases and Percentages.

Gonorrhœa	81.4%
Chancroid	4.6%
Primary Syphilis	7.7%
Secondary Syphilis	1.8%
Tertiary Syphilis	0.1%
Venereal Warts	0.2%

Mixed Infections.

Gonorrhœa and Chancroid	0.6%	3.5%
Gonorrhœa and Syphilis	2.8%	
Syphilis and Chancroid	0.1%	

Ratio of Frequency.

Chancroid.	Syphilis.	Gonorrhœa.
1	2.1	17.5
—	1	8.3

1917 (up to end of March).

	Cases.	Percentage.
Gonorrhœa	219	77.9
Chancroid	14	4.9
Syphilis—		
Primary	27	9.6
Secondary	10	3.5
Tertiary	Nil.	—
Mixed Infections—		
Gonorrhœa and Chancroid	4	1.4
Gonorrhœa and Syphilis	6	2.1
Syphilis and Chancroid	1	0.3
Gonorrhœa, Syphilis and Chancroid	Nil.	—
Total	281	

Ratio of Frequency.

Chancroid.	Syphilis.	Gonorrhœa.
1	2.6	15.6
—	1	6

Professor R. J. A. Berry moved a hearty vote of thanks to General Fetherston, Colonel Cuscaden, Captain Conder and Captain Johnson for enabling the members to visit the camp and for having given them so much valuable information.

Frederick Wallscourt Blake Greaves, M.B., Ch.M., 1914, Univ. Sydney, of 97 Johnston Street, Annandale, Sydney, and Percival Arthur Clive Davenport, M.B., Ch.M., 1914, Univ. Sydney, of "Orme," Darling Point, New South Wales, have been nominated for election as members of the New South Wales Branch.

Naval and Military.

On May 21, June 1 and June 4, 1917, the 305th, the 306th and 307th list of casualties respectively were issued. In spite of the very large number of names included in these three lists, we are pleased to note that no medical man has lost his life, and that only one is mentioned under the heading "wounded." This is Captain Ronald Leonard Henderson. Captain M. A. McIntyre Sinclair is reported to be ill in hospital.

BIRTHDAY HONOURS.

His Majesty the King has been pleased to confer the following honours on Australian medical practitioners. We wish to offer the recipients of these distinctions our heartiest congratulations.

To be Companions of the Order of Saint Michael and Saint George.

Colonel Reynald Jeffrey Millard.
Colonel Reuter Emerick Roth, D.S.O., V.D.
Colonel Arthur Percy Wall.
Lieutenant-Colonel William Thornborough Hayward.
Lieutenant-Colonel Thomas Ernest Victor Hurley.

To receive the Distinguished Service Order.

Lieutenant-Colonel H. N. Butler.
Lieutenant-Colonel C. T. C. De Crespigny.
Lieutenant-Colonel W. W. Hearne.
Lieutenant-Colonel R. B. Huxtable.
Lieutenant-Colonel A. H. Tebbutt.
Major W. A. Fraser.
Major C. L. S. Macintosh.
Major R. W. W. Walsh.
Captain A. H. Powell

We wish also to convey our sincere congratulations to Professor Edward Charles Stirling, C.M.G., of Adelaide, for having received the honour of knighthood, and to Dr. Frederick Truby King, of the Seacliff Mental Asylum, New Zealand, on having received the distinction of the Companionship of the Order of Saint Michael and Saint George.

AUSTRALIAN ARMY MEDICAL CORPS COMFORTS FUND.

It is with some disappointment that we have to record that up to May 5, 1917, only two contributions have been received in response to our appeal for funds for the Australian Army Medical Corps Comforts Depôt. We trust that the response will be more rapid after medical practitioners have recovered from the effects of the calls made recently by the Red Cross Society and by the Y.M.C.A.

	£	s.	d.
Dr. H. W. Sweetnam (Launceston)	1	1	0
Dr. Sydney C. Watkins (Hornsby)	2	2	0

Public Health.

NEW SOUTH WALES.

The following notifications have been received by the Department of Public Health, New South Wales, during the fortnight ending May 26, 1917:—

	Metropolitan Combined District. Cs.	Dths.	Hunter River Combined District. Cs.	Dths.	Rest of State. Cs.	Dths.	Total. Cs.	Dths.
Enteric Fever	9	0	6	0	8	1	23	1
Scarlatina	70	1	5	0	49	0	124	1
Diphtheria	119	1	35	0	211	5	365	4
C'bro-Sp'l Menin.	3	2	0	0	3	2	6	4
*Pul. Tuberculosis	68	31	3	0	1	1	72	32

* Notifiable only in the Metropolitan and Hunter River Districts, and, since October 2, 1916, in the Blue Mountain Shire and Katoomba Municipality.

Eleven cases of mild variola have been notified from Coonabarrabran.

VICTORIA.

The following notifications have been received by the Board of Public Health, Victoria, during the fortnight ending May 27, 1917:—

	Metropolitan. Cs.	Dths.	Rest of State. Cs.	Dths.	Total. Cs.	Dths.
Diphtheria	107	3	94	1	201	4
Scarlatina	48	0	36	0	84	0
Enteric Fever	0	0	9	2	9	2
Pulmonery Tuberculosis	29	19	14	2	43	21
C'bro-Spinal Meningitis	4	—	2	—	6	—
Poliomyelitis	1	—	0	—	1	—

SOUTH AUSTRALIA.

The following notifications have been received by the Central Board of Health, Adelaide, for the fortnight ending May 19, 1917:—

	Adelaide. Cs.	Dths.	Rest of State. Cs.	Dths.	Totals. Cs.	Dths.
Diphtheria	3	2	86	1	89	3
Pulmonary Tuberculosis	1	8	16	12	17	20
Scarlatina	0	0	12	0	12	0
Pertussis	0	1	13	0	13	1
Enteric Fever	0	0	11	1	11	1
Morbilli	1	0	7	0	8	0
Puerperal Fever	0	0	1	0	1	0
C'bro-Spinal Meningitis	0	0	2	1	2	1

QUEENSLAND.

The following notifications have been received by the Department of Public Health, Queensland, during the fortnight ending May 26, 1917:—

Disease.	No. of Cases.
Scarlatina	43
Ankylostomiasis	8
Malaria	4
Enteric Fever	11
Diphtheria	96
Erysipelas	5
Pulmonary Tuberculosis	31
Cerebro-Spinal Meningitis	4
Puerperal Fever	1

WESTERN AUSTRALIA.

The following notifications have been received by the Department of Public Health, Western Australia, during the fortnight ending May 12, 1917:—

	Metropolitan. Cases.	Rest of State. Cases.	Totals. Cases.
Enteric Fever	7	4	11
Diphtheria	25	16	41
Scarlatina	14	3	17
Pulmonary Tuberculosis	12	8	20
Erysipelas	2	0	2
Malaria	3	0	3
Cerebro-Spinal Meningitis	1	0	1
Ophthalmia	1	0	1

Obituary.

CHARLES EDWARD TODD.

On May 23, 1917, Charles Edward Todd died suddenly, while on a visit to Melbourne. His death has been a great shock to his many friends, both within and without the profession in South Australia and in other States.

Charles Edward Todd was the eldest son of the late Sir Charles Todd, the sometime Postmaster-General of South Australia.

He was born in 1858 and was educated at St. Peter's College, Adelaide. In 1877 or 1878 he proceeded to London and became a medical student at St. George's Hospital. He passed the examination of the Conjoint Board in 1882, and in the following year obtained the degree of Doctor of Medicine at Brussels. In the same year he returned to Adelaide, where he practised his profession up to the time of his death for a third of a century. Early in his career he distinguished himself as a very capable surgeon, and during the latter years of his practice he became well known as an exponent of modern abdominal surgery. He was associated with the Adelaide Hospital for many years, and, as will be seen from the eloquent remarks made by Dr. Benjamin Poulton at a meeting of the Adelaide Hospital Board held on May 28, 1917, his work as a honorary surgeon was highly valued, both by his colleagues and by his patients.

In 1906 and in 1912 he paid visits to Europe for the purpose of seeing what British and Continental surgeons and radiographers were doing, and of extending his outlook in matters surgical. Since the outbreak of war in 1914 his work at the Adelaide Hospital became especially strenuous. The strain of working at very high pressure and of doing his duty without regard to his personal comfort or convenience gradually had an effect upon his general health, which had been undermined by a long-continued, chronic affection of his accessory sinuses. In addition to his hospital work, he served for many years as Physician to the Police Force, and in his capacity as Major in the Australian

Army Medical Corps he performed much reliable service at the Keswick Military Hospital. We have been in the fortunate position of having been enabled to publish various articles written by him from time to time since the establishment of *The Medical Journal of Australia*. As recently as May 12 and May 19 there have been two short contributions from Dr. Todd.

Charles Edward Todd has taken a prominent part in the work of the British Medical Association in South Australia, and has contributed in no small degree to the high ethical standards which obtain in the State. He served as President of the South Australian Branch during the year 1901-1902.

He divided his spare time between medical pursuits, golfing and yachting. His cheery and optimistic manner and his intense love for his work endeared him to an immense number of patients and friends throughout Australia. He was a clear thinker, a courteous companion, and a sympathetic friend.

In asking the members of the Adelaide Hospital Board to record their deep sense of the great loss sustained by all connected with the Hospital by the death of Charles Edward Todd, Dr. B. Poulton said:—

> It is very difficult so soon after the unexpected loss of an old friend to speak adequately and as one would like to speak, and I shall not attempt now to do such justice to Dr. Todd's memory as is fitting and proper. It was my privilege to know him throughout his medical life in Adelaide, to watch his rapid and successful entry into full professional occupation, his very busy years of general practice, and his later activities in surgical work. He was a man deeply interested in his profession and indefatigable in all the associated enterprises he pursued. He was respected in the profession and by the community. I cannot refrain from expressing admiration for his very strong and affectionate filial feeling, his lifelong devotion to his parents and family, a notable and lovable attribute of the man, one of his strongest characteristics, a keynote to his character. But it is necessary here to say something of him as hospital surgeon. Here he proved himself a trusty and conscientious man, and one very regular and particular in the discharge of his duties, most careful of his patients' best interests, skilful in the treatment of their maladies, kind and full of gentle consideration in all his dealings with them. His naturally urbane and courteous disposition made his intercourse with his colleagues pleasant and agreeable; his fair and considerate bearing to the subordinate staff promoted discipline and commanded respect. He will be ever remembered with honour by all branches of the hospital staff as one who throughout his career consistently fulfilled the duties of his office. This is an honourable record. Need one say more? We mourn his loss, we regret that he may no longer give aid to his hospital, that we are bereft of an adviser and friend.

NORMAN CRAIG SHIERLAW.

As announced in *The Medical Journal of Australia* on May 26, 1917, Captain Norman Craig Shierlaw died in France on April 11, 1917, as the result of wounds received while on active service.

Norman Craig Shierlaw was born on August 23, 1883. He received his schooling and the first part of his medical education in Adelaide, and then proceeded to Edinburgh, where he obtained the diplomas of the licentiate of the Royal College of Physicians and Surgeons of Edinburgh and of the Faculty of Physicians and Surgeons of Glasgow in 1909. Three years later he took the Fellowship of the Royal College of Surgeons of Edinburgh. He devoted himself for four or five years to the study of the diseases of the eye, ear, nose and throat, and when he returned to Adelaide in 1914 he started practice as a specialist in these diseases. Early in the war he enlisted for service, and received a commission as Captain in the Australian Army Medical Corps Reserve. He was transferred to the Australian Imperial Force on July 14, 1916, and attached to the Fourth Field Ambulance. While at the front he distinguished himself greatly. Major-General H. V. Cox congratulated him on his courage and devotion to duty during the fighting in the neighbourhood of Pozières on August 29, 1916, and at a later date he was awarded the Military Cross. The reputation of Australians has been made by men like Norman Craig Shierlaw.

REGINALD BLOCKLEY LUCAS.

But little is known of the conditions under which Captain Reginald Blockley Lucas met his death in Germany. He was a graduate in medicine of the University of Adelaide, having taken his degrees of M.B., B.S., in 1913. He spent six months as Resident Medical Officer at the Children's Hospital. Shortly after the outbreak of war he joined the Australian Imperial Force, and did sterling service during the latter part of 1914 and the whole of 1915. In 1916 he was reported missing. News has recently been received that he was wounded on the field and was taken prisoner. He died in a German hospital within a few days of his capture.

CLIVE BRITTEN BURDEN.

Clive Britten Burden was born on December 13, 1891. He was educated in Adelaide, and studied medicine at the University. In 1916 he took his degree in medicine and surgery, and immediately left for England with a rank of Captain, his appointment bearing the date of July 7, 1916. He spent some short time in training in Great Britain, and was then sent to France, where he served at No. 2 Base Hospital for three months. At the end of this period he was drafted to the 6th Field Ambulance. He proved himself a very valuable officer. In common with the majority of those serving near the firing line, his health suffered after a time, and he was consequently invalided to England. On May 5, 1917, he met with an accident at Victoria Station, in London. He was taken to St. George's Hospital, where, despite the careful attendance of the surgical staff, he succumbed to his injuries on May 8.

Special Correspondence.

(By our special correspondent.)

LONDON LETTER.

War Prices of Food.

The retail prices of food on November 1, 1916, according to the *Board of Trade Labour Gazette*, were about 5% higher than a month earlier. A large proportion of the increase was due to the rise in the price of potatoes, the average retail price at November 1st being about 9¾d. per 7 lb., as compared with 4½d. a year ago and 3¾d. on the corresponding date in 1914. The price of milk increased about 7% during the month, to an average price of 5¼d. per quart. The price of flour advanced by 6%, about 1d. per 7 lb., and that of bread by 4%, under ½d. per 4 lb. on the average. Eggs were dearer than a month earlier by 19%, and fish by 13% on the average. Butter and cheese rose in price during the month by about 4%, and bacon by 2%. The changes in the average prices of tea, sugar, margarine and meat were practically negligible.

Compared with a year ago prices showed an average increase of 27%.

Taking the country as a whole, and making allowance for the relative importance of the various articles in working-class household expenditure, the average increase in retail prices of food between the beginning of the war and November 1, 1916, was 78%, which is reduced to 72% if the increase in the duties on tea and sugar be deducted. These figures relate to food only, and in estimating the increased cost of living this percentage must not be applied to the total family expenditure, but only to that proportion which is expended on food. It should be remembered that rents of working-class dwellings are not appreciably higher than before the

war, and that, although many other items of expenditure have increased substantially, they have not advanced, on the average, as much as food. It may be estimated that the average increase in the cost of living of the working-classes between July, 1914, and the present time, taking food, rent, clothing, fuel and light, and miscellaneous expenditure into consideration, is about 55%, disregarding increased taxation and assuming that the standard of living has not been modified in view of war conditions.

Temperance in the Army.

A council meeting of the Royal Army Temperance Association was held at the Horse Guards on November 13, 1916, under the presidency of Field-Marshal Viscount French. The Association is doing valuable work and is the only temperance society officially recognized, receiving a Government grant of £750 per year. A special effort is now being made to extend its work, for which purpose a strong appeal has been issued for public support. Lord French said the excellent work of the Association had greatly benefited the Army in the past, and he was confident that the new organizing scheme would enable the Council to cope with the increased numerical strength of the Army and the vast areas covered by hutted camps, including the re-grouping of the present areas and the appointment of a paid organizing secretary. The Association had been of immense benefit to the soldiers, and its good influences had been felt throughout the Army. The scheme would be a fitting memorial to the late Field-Marshal Lord Roberts and his great work for the Association. He sincerely hoped that very generous financial support would be given to the scheme, which had his entire approval, and he should be glad at all times to assist the Association.

Correspondence.

THE MYSTERIOUS DISEASE.

Sir,—We were very interested in Dr. Breinl's letter of May 26 in reference to the occurrence at Townsville of cases of a disease apparently identical with that which has recently occurred in parts of New South Wales.

As shown by official correspondence dated 2nd, 21st and 22nd May, written by us and copies of which we enclose for your information, it will be seen that the possibility of this disease being either acute anterior poliomyelitis or due to a virus allied to that of this disease, had previously occurred to us also. This view is supported by sections from the medulla of a country case in which lesions indistinguishable from those of acute anterior poliomyelitis are present, as well as by the occurrence of marked paresis of the limbs as an aftermath of the acute infection in two cases. A full report of our investigations into this disease is in course of preparation by Dr. Buckley and ourselves.

Our present opinion is that it is quite possible that the disease in question is not acute anterior poliomyelitis, as generally understood, but that it may be due to some virus allied to that of acute anterior poliomyelitis producing a disease which has hitherto not been differentiated from the latter. This point will be discussed later.

Yours, etc.,

J. B. CLELAND.
BURTON BRADLEY.

Office of the Director-General of Public Health,
Sydney, 31st May, 1917.

VISION OF PILOTS.

Sir,—I am glad to find my letter of the 28th April has led to some criticism. I am quite as much in favour of a high standard of examination by qualified men as your correspondents, Drs. Orr and Hughes, but I still think it should be under normal conditions. If there is any manifest error of refraction or suspicion of fundus changes then mydriatics could be resorted to. A small amount of hypermetropia is an advantage rather than a disadvantage to a sailor, and he always has his binoculars. We are all apt to be influenced by particular cases. I will take my own. Had I been wishing to take up the sea as a profession and examined under similar conditions to the case referred to in my letter I should have been thrown out. As it is, I am in my sixtieth year, my distant vision is so good that during the six times I have been over the Equator during the last eighteen months, I have been able to pick up distant objects without glasses as quickly as any of the younger officers and men. In 1881, when reading for my final M.R.C.S. my eyes bothered me. Nettleship found I had slight hypermetropia (about same amount as in case quoted), with some astigmatism of the left eye. Glasses relieved me greatly. Two voyages to the Cape so set up my general health that I gave them up, and it was not till I was nearly 40 that I had to take to the same glasses again. I only use them now for writing, surgical work or reading—3.0 D. for the latter and 2.0 D. for the former, with + 1.75 cyl. for the left eye.

There is no risk from slight hypermetropia. The risk comes in in later life from tobacco amblyopia, commencing cataract, albuminuric retinitis, etc., against which, of course, the only real protection is periodical examination.

Yours, etc.,

LEONARD W. BICKLE.

Edgecliff, New South Wales,
May 30, 1917.

THE TREATMENT OF CARBUNCLES.

Sir,—Recently there was some correspondence in the *Journal re* the treatment of carbuncles. It is quite evident from the letters that appeared that the profession, or a large number of them, is still obsessed with the idea of superficial treatment for a great many conditions that can be more easily and more rapidly cured by other means. Now one of these conditions is carbuncles, a notoriously difficult and painful thing to treat by ordinary superficial methods, such as incision, injection, foments, paints, etc. On the other hand, carbuncles can be rapidly and painlessly cured by means of zinc ions. This treatment has been advocated by several writers in recent years, and I myself have never seen a case treated with zinc ions that did not heal in marvellously quick time, leaving a beautiful, smooth scar. I have treated several, some large and some small, and the results in all cases have been brilliant. The profession has been very slow to recognize that in the local application of various ions we have a powerful means of influencing pathological processes in the tissues, and one of the most striking of ionic actions is the antiseptic and healing action of zinc.

Yours, etc.,

PAUL E. DANE.

80 Collins Street, Melbourne,
May 30, 1917.

Proceedings of the Australasian Medical Boards.

TASMANIA.

The undermentioned has been registered as a duly qualified medical practitioner under the provisions of "The Medical Act, 1908":—

Aitken, Gilbert Elliot, L.R.C.P., Edin., 1907, L.R.C.S., Edin., 1907, L.F.P.S., Glasg., 1907, New Norfolk.

Books Received.

ACUTE APPENDICITIS, Practical Points from a Twenty-five Years' Experience, by C. Hamilton Whiteford, M.R.C.S., L.R.C.P.; 1917. London: Harrison and Sons. Crown 8vo., pp. 72. Price, 4s. net.

CHEMISTRY FOR BEGINNERS, by C. T. Kingzett, F.I.C., F.C.S.; 1917. London: Bailliere, Tindall and Cox. Crown, 8vo., pp. 106. Price, 2s. 6d. net.

THE BOTTLE FEEDING OF INFANTS, by R. Greig-Smith, D.Sc.; 1917. Sydney: Angus & Robertson, Ltd. Crown, 8vo., pp. 100. Price, 1s.

Medical Appointments.

The vacancy on the Board of Optical Registration, Tasmania, caused by the resignation of Dr. Lindsay Miller, has been filled by the appointment of Dr. Hugh Armstrong as a Member of the Board.

His Excellency the Governor-General has approved of the appointment of Dr. F. Howson as Quarantine Officer for Brisbane, and of Dr. P. Mitchell as Quarantine Officer for Sydney.

Dr. T. Garnet Leary has been appointed Health Officer to the Borough of Sandringham, Victoria, from June 1, 1917.

Under the provisions of The Mental Defectives Act, 1913, Dr. John Stewart has been appointed an Official Visitor to the Mental Hospital, Parkside, South Australia.

Dr. Edward Maxwell Ramsden has been appointed to act as Visiting Surgeon to Bathurst Gaol, New South Wales, from the date of commencing duty, pending permanent arrangements being made.

Dr. C. D. Kerr has resigned his position as Medical Officer of Health to the Meekatharra Road Board, Western Australia. Dr. S. E. Craig has been appointed in his stead.

From May 1, 1917, Dr. Thomas Wilson has been appointed District Medical Officer and Public Vaccinator at Goomalling, Western Australia, in place of the late Dr. E. P. Cockey.

Dr. David Colvin Henry has been appointed Government Medical Officer at Crookwell, New South Wales, Dr. L. B. H. Conroy having resigned.

Medical Appointments Vacant, etc.

For announcements of medical appointments vacant, assistants, locum tenentes sought, etc., see "Advertiser," page xv.

Brisbane Hospital, Junior Resident Medical Officers.

General Hospital, Warwick, Queensland, Medical Superintendent.

Medical Appointments.

IMPORTANT NOTICE.

Medical practitioners are requested not to apply for any appointment referred to in the following table, without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, 429 Strand, London, W.C.

Branch.	APPOINTMENTS.
TASMANIA. (Hon. Sec., Bellerive, Tasmania.)	Medical Officers in all State-aided Hospitals in Tasmania.
VICTORIA. (Hon. Sec., Medical Society Hall, East Melbourne.)	Brunswick Medical Institute. Bendigo Medical Institute. Prahran United F.S. Dispensary. Australian Prudential Association Proprietary, Limited. National Provident Association. Life Insurance Company of Australia, Limited. Mutual National Provident Club.
QUEENSLAND. (Hon. Sec., B.M.A. Building, Adelaide Street, Brisbane.)	Medical Officers to the Selwyn Hospital, North Queensland. Brisbane United Friendly Society Institute.
SOUTH AUSTRALIA. (Hon. Sec., 3 North Terrace, Adelaide.)	The F.S. Medical Assoc., Incorp., Adelaide.
WESTERN AUSTRALIA. (Hon. Sec., 230 St George's Terrace, Perth.)	Swan District Medical Officer. All Contract Practice Appointments in Western Australia.
NEW SOUTH WALES. (Hon. Sec., 30-34 Elizabeth Street, Sydney.)	Australian Natives' Association. Balmain United F.S. Dispensary. Canterbury United F.S. Dispensary. Leichhardt and Petersham Dispensary. M.U. Oddfellows' Med. Inst., Elizabeth Street, Sydney. Marrickville United F.S. Dispensary. N.S.W. Ambulance Association and Transport Brigade. North Sydney United F.S. People's Prudential Benefit Society. Phœnix Mutual Provident Society. F.S. Lodges at Casino. F.S. Lodges at Lithgow. F.S. Lodges at Parramatta, Penrith, Auburn and Lidcombe. Newcastle Collieries — Killingworth, Seaham Nos. 1 and 2, West Wallsend.
NEW ZEALAND: WELLINGTON DIVISION. (Hon. Sec., Wellington.)	Friendly Society Lodges, Wellington, N.Z.

Diary for the Month.

June 9.—S. Aust. Branch, B.M.A., Council.
June 12.—Tas. Branch, B.M.A., Council and Branch.
June 12.—N.S.W. Branch, B.M.A., Ethics Committee.
June 14.—Vic. Branch, B.M.A., Council.
June 19.—N.S.W. Branch, B.M.A., Executive and Finance Committee.
June 20.—W. Aust. Branch, B.M.A., Branch.
June 20.—South Sydney Med. Assoc. (N.S.W.).
June 22.—Q. Branch, B.M.A., Council.
June 26.—N.S.W. Branch, B.M.A., Medical Politics Committee, Organization and Science Committee.
June 27.—Vic. Branch, B.M.A., Council.
June 29.—S. Aust. Branch, B.M.A., Branch.
June 29.—N.S.W. Branch, B.M.A., Branch.
July 3.—N.S.W. Branch, B.M.A., Council (Quarterly).
July 4.—Vic. Branch, B.M.A., Branch.
July 6.—Q. Branch, B.M.A., Branch.

EDITORIAL NOTICES.

Manuscripts forwarded to the office of this Journal cannot under any circumstances be returned.

Original articles forwarded for publication are understood to be offered to *The Medical Journal of Australia* alone, unless the contrary be stated.

All communications should be addressed to "The Editor," *The Medical Journal of Australia*, B.M.A. Building, 30-34 Elizabeth Street, Sydney, New South Wales.